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RESEARCH MEMORANDUM

WIND-TUNNEL INVESTIGATION OF THE EFFECT OF ASPECT RATIO
AND CHORDWISE LOCATION ON EFFECTIVENESS OF PLAIN
SPOILERS ON THIN UNTAPERED WINGS

AT TRANSONIC SPEEDS

By Alexander D. Hammond

Langley Aeronautical Laboratory
Langley Field, Va.

of the conference from Title 18, U.S.C. [redacted] of the United States with the meaning [redacted] of which in any [redacted]
**NATIONAL ADVISORY COMMITTEE
FOR AERONAUTICS**

WASHINGTON
September 26, 1956



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SUMMARY

A wind-tunnel investigation has been made in the Langley high-speed 7- by 10-foot wind tunnel by use of the transonic-bump technique to study the effectiveness of spoiler-type controls on 9 unswept untapered wings. Full-span spoilers, projected to 7.5-percent wing chord along the 40-, 60-, 80-, and 100-percent wing chord lines, were tested on wings of aspect ratio 1 to 6 at Mach numbers from 0.6 to 1.10. Most of the data are presented without analysis.

INTRODUCTION

Design of spoiler-type controls at transonic speeds is hampered by the lack of a satisfactory theoretical approach and the lack of systematic data on the effects of spoiler chordwise location and wing aspect ratio. There are considerable published data on spoilers (refs. 1 to 3) but for the most part there is no systematic variation of variables on a given wing configuration.

The present paper presents the results of a wind-tunnel investigation to determine spoiler effectiveness on 9 small-scale rectangular semispan wings. The transonic speeds were obtained by using the transonic-bump technique in the Langley high-speed 7- by 10-foot wind tunnel. The variables investigated were wing thickness (4 and 6 percent), wing aspect ratio (aspect ratios from 1 to 6), and spoiler chordwise location (spoilers located from 0.4 to 1.0 wing chord).

In order to expedite the publication of the results, no detailed analysis or discussion of the data will be made. All the data are

presented in tabulated form and, in addition, some data showing significant trends are presented in graphic form.

SYMBOLS

C_L	lift coefficient, $\frac{\text{Twice semispan lift}}{qS}$
C_D	drag coefficient, $\frac{\text{Twice semispan drag}}{qS}$
C_m	pitching-moment coefficient about 0.25c, $\frac{\text{Twice semispan pitching moment}}{qSc}$
C_l	rolling-moment coefficient, $\frac{\text{Semispan rolling moment}}{qSb}$
C_n	yawing-moment coefficient, $\frac{\text{Semispan yawing moment}}{qSb}$
b	wing span, ft
c	wing chord, ft
x_s	spoiler location from leading edge, ft
S	wing area, sq ft
t	wing thickness, ft
A	wing aspect ratio, b^2/S
q	free-stream dynamic pressure, $\frac{1}{2}\rho V^2$, lb/sq ft
V	free-stream velocity, ft/sec
ρ	free-stream density, slugs/cu ft
R	Reynolds number based on wing chord
M	free-stream Mach number
M_l	local Mach number

- α angle of attack, deg
- δ_s spoiler projection above wing surface, fraction of wing chord
- $\Delta C_L, \Delta C_m, \Delta C_D$ change in coefficient due to spoiler deflection,
difference between wing with spoiler and the plain wing
- $(\Delta C_N)_{cp}$ center of pressure of incremental normal-force coefficient due to spoiler projection

MODELS

The geometric characteristics of the models used in the investigation are given in figure 1. The models were machined from solid steel to either NACA 65A004 or NACA 65A006 airfoil sections. The basic models had no twist or camber and had a taper ratio of 1. The aspect ratio was varied by cutting the wings at the appropriate spanwise station normal to the chord plane.

Flap-type spoilers (simulated by a wedge) (fig. 1) were attached to the upper surface of the wings at chordwise stations of 0.4c, 0.6c, 0.8c, 1.0c, and extended from the wing root to the wing tip. The spoiler projection δ_s was 0.075c for all the wings.

TESTS

The tests were made by using the transonic-bump technique in the Langley high-speed 7- by 10-foot tunnel. The models were attached to a five-component electrical strain-gage balance beneath the bump surface. The tests were made over a Mach number range from 0.60 to 1.10 at Reynolds numbers varying from 0.5×10^6 to 1.5×10^6 (fig. 2). The variation of the local Mach number over the bump in the vicinity of the model is shown in figure 3.

The test angles of attack varied from -10° to 25° whenever the loads encountered did not exceed the design limit of the balance. The aspect ratio varied from 2 to 6 on the 6-percent-thick wing and from 1 to 4 on the 4-percent-thick wing.

CORRECTIONS

The data have not been corrected for jet-boundary effects on blocking since the models were sufficiently small with respect to tunnel boundaries as to make the corrections negligible. No corrections were applied to account for flap deflection under load, since calculations had indicated that these were also negligible. The roll and yaw data presented represent the rolling- and yawing-moment coefficients resulting from deflection of the control on one wing. Since no reflection-plane corrections have been applied to the data, they represent symmetrically deflected controls and should be reduced if applied to antisymmetric deflection. The magnitude of the corrections (reflection plane) at $M = 0$ obtained from references 4 and 5 is given in figure 4. The variation of the reflection-plane correction with Mach number has not been established in the transonic speed range but does decrease to 0 at supersonic speeds.

RESULTS AND DISCUSSION

The force and moment data obtained in this investigation are presented in tabular form in tables 1 to 6.

The variation of ΔC_L , ΔC_D , ΔC_m , and $(\Delta C_N)_{cp}$ with aspect ratio is shown in figure 5 at zero angle of attack at $M = 0.8$ and $M = 1.1$. The variation of ΔC_L , ΔC_D , ΔC_m , and $(\Delta C_N)_{cp}$ with angle of attack is given in figure 6 for the aspect-ratio-4, 6-percent-thick wing at $M = 0.8$ and $M = 1.1$. The variation of ΔC_L , ΔC_D , ΔC_m , and $(\Delta C_N)_{cp}$ with Mach number is given in figure 7 at zero angle of attack for the aspect ratio 4, 4-percent- and 6-percent-thick wings.

The graphical presentation of some of the data (figs. 5 to 7) is presented to give a pictorial description of the typical variation of ΔC_L , ΔC_D , ΔC_m , and $(\Delta C_N)_{cp}$ with the several test variables. If a detailed analysis is desired, recourse should be made to the tabulated data. (See tables 1 to 6.)

The loss in lift effectiveness of the spoiler at any chordwise location when the angle of attack is greater than about 10° at subsonic speed (fig. 6(a)) is typical of this type of spoiler. It has been shown (ref. 1) that this loss in effectiveness can be alleviated by putting a slot through the wing behind the spoiler when the spoiler is deflected. The addition of the slot should be considered whenever a spoiler installation on thin wings is required to operate at high angles of attack.

It should be pointed out that these data are for only one value of spoiler projection and, although they are useful in determining the effects of the several variables, they are not necessarily applicable to the design of a control surface that uses small deflections (ref. 6).

Langley Aeronautical Laboratory,
National Advisory Committee for Aeronautics,
Langley Field, Va., May 29, 1956.

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TABLE 1 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL

 $\frac{t}{c} = 0.04$
 $\frac{x_b}{c} = \text{NONE}$

α , deg	C_L	C_D	C_H	C_i	C_n	α , deg	C_L	C_D	C_H	C_i	C_n
M = 0.60						M = 0.95					
-10	-.3241	.0235	-.0034	-.0409	.0101	-10	-.3379	.0703	-.0225	-.0427	.0161
-7	-.1958	.0183	-.0011	-.0277	.0085	-7	-.2072	.0545	-.0236	-.0262	.0125
-5	-.1392	.0131	-.0354	-.0204	.0079	-5	-.1258	.0498	-.0221	-.0165	.0097
-3	-.0761	.0183	-.0271	-.0132	.0073	-3	-.0666	.0474	-.0155	-.0082	.0079
-2	-.0544	.0191	-.0229	-.0092	.0073	-2	-.0345	.0486	-.0056	-.0052	.0068
-1	-.0218	.0257	-.0107	-.0059	.0063	-1	-.0025	.0511	.0019	-.0015	.0068
0	.0087	.0322	-.0124	-.0013	.0054	0	.0222	.0511	.0006	.0023	.0054
1	.0326	.0387	-.0126	.0020	.0047	1	.0469	.0533	.0072	.0052	.0057
2	.0609	.0448	-.0054	.0053	.0044	2	.0789	.0570	.0169	.0090	.0061
3	.0914	.0505	-.0049	.0086	.0044	3	.1134	.0631	.0224	.0127	.0075
5	.1566	.0600	.0048	.0165	.0037	5	.1800	.0740	.0214	.0217	.0075
7	.2349	.0822	.0072	.0264	.0076	7	.2590	.0959	.0246	.0314	.0125
10	.3589	.1335	.0033	.0416	.0158	10	.4094	.1480	.0104	.0509	.0190
15	.5699	.2567	-.0308	.0699	.0288	15	.6486	.2523	-.0273	.0793	.0312
20	.7939	.4320	-.0960	.0964	.0487	20	.8755	.3978	-.0921	.1085	.0509
25	.9092	.5821	-.1502	.1115	.0642	25	.9791	.5362	-.1353	.1197	.0670
M = 0.80						M = 1.00					
-10	-.3542	.0487	-.0237	-.0425	.0111	-10	-.3513	.0894	-.0149	-.0437	.0151
-7	-.2258	.0354	-.0274	-.0282	.0092	-7	-.2075	.0637	-.0242	-.0272	.0116
-5	-.1446	.0283	-.0226	-.0188	.0079	-5	-.1297	.0680	-.0264	-.0172	.0093
-3	-.0812	.0269	-.0180	-.0107	.0069	-3	-.0637	.0545	-.0166	-.0086	.0072
-2	-.0502	.0283	-.0505	-.0076	.0064	-2	-.0330	.0545	-.0131	-.0050	.0062
-1	-.0192	.0304	-.0053	-.0040	.0058	-1	-.0024	.0556	-.0012	-.0014	.0058
0	.0103	.0342	.0023	.0000	.0047	0	.0236	.0568	.0022	.0014	.0048
1	.0369	.0363	.0090	.0031	.0043	1	.0566	.0580	.0051	.0057	.0048
2	.0635	.0378	.0063	.0072	.0037	2	.0872	.0637	.0216	.0086	.0065
3	.1004	.0437	.0131	.0112	.0032	3	.1226	.0648	.0250	.0129	.0075
5	.1668	.0596	.0212	.0193	.0043	5	.1910	.0823	.0227	.0215	.0096
7	.2479	.0776	.0177	.0291	.0084	7	.2853	.1066	.0225	.0329	.0137
10	.3763	.1263	.0160	.0457	.0156	10	.4433	.1518	.0032	.0536	.0206
15	.5889	.2518	-.0198	.0743	.0283	15	.7192	.2655	-.0490	.0880	.0353
20	.8117	.3949	-.0959	.0990	.0466	20	.9432	.4164	-.1020	.1180	.0559
25	.8767	.4965	-.1369	.1075	.0594	25	1.1011	.6076	-.1582	.1373	.0795
M = 0.85						M = 1.05					
-10	-.3624	.0340	-.0271	-.0436	.0124	-10	-.3725	.1066	-.0017	-.0473	.0118
-7	-.2310	.0205	-.0300	-.0281	.0094	-7	-.2258	.0745	-.0150	-.0288	.0082
-5	-.1480	.0149	-.0202	-.0176	.0066	-5	-.1355	.0632	-.0195	-.0185	.0056
-3	-.0871	.0116	-.0182	-.0105	.0056	-3	-.0722	.0578	-.0139	-.0103	.0040
-2	-.0539	.0136	-.0132	-.0067	.0048	-2	-.0361	.0555	-.0107	-.0062	.0033
-1	-.0207	.0149	-.0032	-.0034	.0048	-1	.0000	.0555	-.0029	-.0021	.0030
0	.0041	.0169	.0017	.0004	.0044	0	.0271	.0578	-.0005	.0021	.0023
1	.0318	.0205	.0072	.0042	.0046	1	.0655	.0632	.0068	.0062	.0026
2	.0692	.0257	.0150	.0075	.0028	2	.1016	.0632	.0099	.0103	.0040
3	.0996	.0271	.0149	.0118	.0028	3	.1355	.0689	.0152	.0144	.0059
5	.1729	.0421	.0191	.0197	.0044	5	.2213	.0856	.0132	.0240	.0089
7	.2490	.0611	.0262	.0302	.0092	7	.3116	.1043	.0037	.0356	.0131
10	.3942	.1137	.0185	.0491	.0165	10	.4628	.1488	-.0159	.0548	.0197
15	.6086	.2327	-.0129	.0772	.0284	15	.7247	.2709	-.0599	.0884	.0325
20	.8244	.3809	-.0989	.1003	.0456	20	.9482	.4296	-.1097	.1192	.0532
25	.8963	.4980	-.1409	.1095	.0589	25	1.1424	.6263	-.1627	.1438	.0765
M = 0.90						M = 1.10					
-10	-.3258	.0649	-.0271	-.0416	.0162	-10	-.3724	.0793	-.0013	-.0472	.0044
-7	-.1965	.0572	-.0218	-.0259	.0128	-7	-.2350	.0579	-.0126	-.0297	.0022
-5	-.1267	.0546	-.0209	-.0165	.0102	-5	-.1503	.0514	-.0172	-.0192	.0003
-3	-.0595	.0535	-.0123	-.0094	.0083	-3	-.0740	.0470	-.0125	-.0099	.0010
-2	-.0259	.0546	-.0034	-.0055	.0083	-2	-.0436	.0451	-.0098	-.0063	.0022
-1	.0000	.0559	.0041	-.0024	.0079	-1	.0000	.0579	.0003	-.0017	.0032
0	.0233	.0572	.0049	.0008	.0071	0	.0283	.0470	-.0010	.0026	.0025
1	.0491	.0552	.0095	.0047	.0071	1	.0501	.0579	.0023	.0059	.0016
2	.0802	.0636	.0165	.0079	.0071	2	.0871	.0579	.0123	.0099	.0013
3	.1138	.0698	.0251	.0118	.0071	3	.1263	.0579	.0143	.0139	.0016
5	.1810	.0815	.0190	.0204	.0094	5	.2069	.0793	.0085	.0244	.0016
7	.2586	.1042	.0266	.0314	.0139	7	.2940	.1006	.0037	.0363	.0038
10	.3957	.1539	.0160	.0487	.0196	10	.4464	.1585	-.0129	.0545	.0111
15	.6388	.2658	-.0177	.0785	.0316	15	.7077	.2935	-.0559	.0875	.0282
20	.8379	.3944	-.0969	.1012	.0492	20	.9211	.4540	-.1152	.1173	.0497
25	.9206	.5126	-.1387	.1122	.0616	25	1.1106	.6361	-.1623	.1411	.0681

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TABLE 1. - THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL - Continued

 $\frac{t}{c} = 0.04$ $\frac{x_h}{c} = 0.40$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	.3025	.0531	-.1145	-.0367	.0189	-10	.4132	.3567	-.0805	-.0498	.0170
-7	.2225	.0531	-.1104	-.0275	.0147	-7	.3491	.3081	-.0643	-.0385	.0124
-5	.1685	.0510	-.1122	-.0210	.0123	-5	.2714	.2790	-.0627	-.0314	.0090
-3	.1080	.0510	-.1097	-.0144	.0100	-3	.2097	.2620	-.0568	-.0232	.0057
-2	.0756	.0531	-.1036	-.0111	.0094	-2	.1887	.2548	-.0598	-.0198	.0045
-1	.0540	.0488	-.0998	-.0079	.0085	-1	.1480	.2548	-.0540	-.0157	.0032
0	.0216	.0640	-.0961	-.0026	.0082	0	.1221	.2548	-.0582	-.0120	.0027
1	.0108	.0678	-.0927	.0006	.0078	1	.0888	.2548	-.0540	-.0082	.0027
2	.0324	.0765	-.0985	.0039	.0072	2	.0555	.2548	-.0497	-.0045	.0022
3	.0648	.0851	-.0950	.0085	.0069	3	.0222	.2548	-.0544	.0004	.0027
5	.1102	.0977	-.0893	.0144	.0069	5	.0493	.2719	-.0543	.0097	.0020
7	.1642	.1167	-.0743	.0216	.0069	7	.1160	.2911	-.0445	.0172	.0027
10	.2852	.1426	-.0705	.0347	.0100	10	.2640	.3276	-.0485	.0337	.0059
15	.5077	.2424	-.0547	.0623	.0217	15	.5428	.4853	-.0704	.0655	.0260
20	.7022	.3824	-.0902	.0905	.0348	20	.7796	.7014	-.1190	.0966	.0407
25	.8642	.5315	-.1290	.1101	.0528						
M = 0.80						M = 1.00					
-10	.3606	.1023	-.1095	-.0427	.0158	-10	.3657	.1996	-.0840	-.0447	.0163
-7	.2859	.0968	-.1005	-.0334	.0154	-7	.2713	.1647	-.0842	-.0326	.0120
-5	.2258	.0880	-.0919	-.0262	.0107	-5	.2124	.1508	-.0841	-.0240	.0084
-3	.1730	.0865	-.0895	-.0187	.0085	-3	.1416	.1439	-.0770	-.0154	.0057
-2	.1407	.0865	-.0816	-.0151	.0074	-2	.1180	.1392	-.0737	-.0122	.0045
-1	.1143	.0865	-.0805	-.0120	.0064	-1	.0920	.1392	-.0677	-.0079	.0034
0	.0850	.0894	-.0801	-.0085	.0053	0	.0472	.1416	-.0795	-.0032	.0031
1	.0513	.0938	-.0711	-.0049	.0051	1	.0260	.1392	-.0757	.0000	.0031
2	.0293	.0938	-.0705	-.0009	.0043	2	.0024	.1416	-.0703	.0039	.0029
3	.0000	.0994	-.0662	.0036	.0038	3	.0472	.1463	-.0724	.0093	.0029
5	.0689	.1097	-.0585	.0116	.0032	5	.1180	.1508	-.0718	.0183	.0031
7	.1393	.1211	-.0464	.0187	.0045	7	.1888	.1626	-.0649	.0261	.0048
10	.2785	.1443	-.0506	.0338	.0085	10	.3067	.1810	-.0540	.0594	.0091
15	.5131	.2378	-.0420	.0631	.0230	15	.5899	.2577	-.0678	.0712	.0290
20	.7183	.3562	-.0768	.0916	.0358	20	.8140	.3829	-.1000	.0999	.0461
25	.8650	.4685	-.1117	.1081	.0526						
M = 0.85						M = 1.05					
-10	.3888	.1311	-.1075	-.0459	.0164	-10	.3409	.1998	-.0791	-.0432	.0110
-7	.3091	.1149	-.0983	-.0350	.0120	-7	.2484	.1677	-.0924	-.0295	.0069
-5	.2404	.1014	-.0861	-.0275	.0100	-5	.1580	.1556	-.0946	-.0188	.0030
-3	.1827	.1014	-.0747	-.0200	.0076	-3	.0993	.1465	-.0919	-.0093	.0008
-2	.1594	.1000	-.0809	-.0167	.0064	-2	.0406	.1443	-.1290	-.0048	.0036
-1	.1305	.1000	-.0757	-.0133	.0060	-1	.0226	.1499	-.0873	-.0003	.0013
0	.0962	.1028	-.0710	-.0096	.0044	0	.0023	.1522	-.0911	.0045	.0025
1	.0687	.1014	-.0668	-.0058	.0040	1	.0294	.1556	-.0911	.0079	.0025
2	.0385	.1028	-.0635	-.0021	.0040	2	.0677	.1610	-.0839	.0180	.0028
3	.0069	.1080	-.0605	.0025	.0038	3	.1016	.1666	-.0849	.0175	.0031
5	.0550	.1190	-.0543	.0109	.0024	5	.1693	.1788	-.0866	.0264	.0008
7	.1237	.1270	-.0498	.0183	.0030	7	.2371	.1910	-.0771	.0334	.0030
10	.2679	.1487	-.0436	.0338	.0080	10	.3499	.2109	-.0672	.0466	.0079
15	.5180	.2418	-.0457	.0646	.0244	15	.5938	.2831	-.0805	.0747	.0244
20	.7420	.3446	-.0784	.0934	.0390	20	.8354	.4163	-.1226	.1058	.0463
25	.8794	.4663	-.1080	.1096	.0565	25	1.0273	.5886	-.1608	.1298	.0668
M = 0.90						M = 1.10					
-10	.4086	.1526	-.1001	-.0487	.0164	-10	.3484	.1982	-.0772	-.0424	.0008
-7	.3297	.1360	-.0915	-.0388	.0145	-7	.2287	.1725	-.0795	-.0281	.0055
-5	.2586	.1208	-.0867	-.0302	.0090	-5	.1633	.1607	-.0943	-.0172	.0087
-3	.2082	.1146	-.0752	-.0224	.0066	-3	.0980	.1607	-.0848	-.0082	.0122
-2	.1746	.1120	-.0698	-.0180	.0053	-2	.0653	.1574	-.0877	-.0040	.0154
-1	.1358	.1146	-.0656	-.0141	.0047	-1	.0218	.1629	-.0781	.0003	.0168
0	.1099	.1146	-.0690	-.0106	.0037	0	.0000	.1659	-.0813	.0050	.0166
1	.0776	.1120	-.0669	-.0067	.0037	1	.0261	.1714	-.0795	.0093	.0154
2	.0440	.1146	-.0615	-.0027	.0037	2	.0457	.1714	-.0882	.0142	.0146
3	.0155	.1169	-.0584	.0020	.0037	3	.0980	.1820	-.0780	.0182	.0134
5	.0517	.1272	-.0514	.0106	.0019	5	.1633	.1982	-.0751	.0261	.0103
7	.1177	.1334	-.0476	.0180	.0023	7	.2504	.2056	-.0714	.0350	.0100
10	.2586	.1565	-.0419	.0341	.0053	10	.3397	.2249	-.0651	.0469	.0016
15	.5237	.2415	-.0420	.0659	.0233	15	.5662	.3105	-.0725	.0737	.0169
20	.7551	.3434	-.0853	.0946	.0391	20	.7948	.4294	-.1211	.1034	.0370
						25	.9974	.6063	-.1497	.1298	.0578

CONFIDENTIAL

TABLE 1.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL -. Continued

$$\frac{x}{c} = 0.04 \quad \frac{y}{c} = 0.60$$

α , deg	C_L	C_D	C_H	C_l	C_n	α , deg	C_L	C_D	C_H	C_l	C_n
M = 0.60						M = 0.95					
-10	-.3306	.1093	-.0681	-.0426	.0132	-10	-.4365	.1904	-.0540	-.0580	.0195
-7	-.2464	.0912	-.0908	-.0334	.0094	-7	-.3305	.1613	-.0420	-.0441	.0138
-5	-.1707	.0860	-.0811	-.0262	.0066	-5	-.2565	.1430	-.0380	-.0355	.0102
-3	-.1188	.0860	-.0726	-.0190	.0053	-3	-.1924	.1297	-.0362	-.0269	.0075
-2	-.1015	.0851	-.0665	-.0164	.0044	-2	-.1578	.1285	-.0385	-.0224	.0061
-1	-.0799	.0894	-.0620	-.0131	.0044	-1	-.1208	.1273	-.0347	-.0176	.0048
0	-.0519	.0946	-.0569	-.0098	.0038	0	-.0962	.1226	-.0346	-.0146	.0043
1	-.0259	.0977	-.0513	-.0098	.0044	1	-.0691	.1226	-.0316	-.0105	.0043
2	-.0043	.1041	-.1134	-.0065	.0053	2	-.0222	.1226	-.0303	-.0056	.0043
3	.0281	.1063	-.0479	-.0026	.0059	3	.0074	.1238	-.0280	-.0019	.0043
5	.0843	.1136	-.0407	.0072	.0069	5	.0789	.1322	-.0260	.0075	.0034
7	.1534	.1158	-.0356	.0151	.0069	7	.1554	.1371	-.0229	.0161	.0048
10	.2549	.1426	-.0111	.0275	.0110	10	.3157	.1709	-.0313	.0333	.0124
15	.4991	.2424	-.0479	.0570	.0242	15	.5968	.2498	-.0485	.0666	.0281
20	.7043	.3643	-.0779	.0846	.0408	20	.8311	.3591	-.0800	.0962	.0470
25	.9377	.5038	-.1151	.1095	.0603	25	.9840	.4863	-.1318	.1160	.0636
M = 0.80						M = 1.00					
-10	-.3841	.1384	-.0656	-.0525	.0168	-10	-.4436	.1984	-.0231	-.0555	.0171
-7	-.2976	.1182	-.0616	-.0400	.0130	-7	-.3138	.1578	-.0615	-.0383	.0124
-5	-.2302	.1067	-.0527	-.0329	.0096	-5	-.2359	.1427	-.0595	-.0283	.0089
-3	-.1627	.1009	-.0465	-.0244	.0068	-3	-.1722	.1416	-.0569	-.0204	.0065
-2	-.1349	.0979	-.0448	-.0209	.0058	-2	-.1463	.1241	-.0510	-.0147	.0053
-1	-.1026	.1003	-.0348	-.0178	.0051	-1	-.0967	.1288	-.0541	-.0111	.0050
0	-.0777	.0994	-.0361	-.0142	.0047	0	-.0613	.1265	-.0551	-.0061	.0043
1	-.0469	.0994	-.0313	-.0111	.0058	1	-.0330	.1229	-.0549	-.0029	.0048
2	-.0147	.0994	-.0329	-.0075	.0062	2	-.0024	.1229	-.0468	.0011	.0051
3	.0176	.1023	-.0288	-.0027	.0060	3	.0330	.1288	-.0498	.0068	.0051
5	.0850	.1117	-.0204	.0058	.0058	5	.1015	.1345	-.0451	.0150	.0053
7	.1569	.1196	-.0214	.0135	.0068	7	.1911	.1463	-.0428	.0240	.0077
10	.2873	.1478	-.0224	.0271	.0124	10	.3250	.1694	-.0464	.0383	.0149
15	.5571	.2501	-.0392	.0614	.0303	15	.5946	.2449	-.0589	.0698	.0334
20	.7682	.3469	-.0801	.0876	.0463	20	.8541	.3806	-.0968	.1034	.0514
25	.9236	.4542	-.1118	.1058	.0633						
M = 0.85						M = 1.05					
-10	-.4149	.1514	-.0687	-.0550	.0200	-10	-.4360	.2033	-.0594	-.0538	.0102
-7	-.3103	.1283	-.0478	-.0425	.0142	-7	-.2982	.1545	-.0706	-.0356	.0049
-5	-.2446	.1149	-.0406	-.0342	.0108	-5	-.2124	.1455	-.0758	-.0243	.0016
-3	-.1841	.1055	-.0411	-.0271	.0084	-3	-.1333	.1401	-.0717	-.0141	-.0020
-2	-.1539	.1028	-.0416	-.0229	.0072	-2	-.1017	.1356	-.0708	-.0103	-.0020
-1	-.1154	.1028	-.0281	-.0188	.0064	-1	-.0700	.1344	-.0668	-.0062	-.0069
0	-.0824	.1028	-.0258	-.0146	.0058	0	-.0384	.1344	-.0691	-.0024	-.0043
1	-.0660	.1000	-.0515	-.0113	.0054	1	-.0113	.1378	-.0671	.0010	-.0026
2	-.0275	.1028	-.0233	-.0079	.0050	2	.0271	.1401	-.0598	.0069	-.0010
3	.0055	.1041	-.0229	-.0029	.0046	3	.0655	.1455	-.0626	.0120	-.0016
5	.0742	.1121	-.0209	.0058	.0042	5	.1288	.1534	-.0579	.0195	.0016
7	.1511	.1204	-.0124	.0146	.0068	7	.2079	.1656	-.0572	.0278	.0040
10	.2995	.1528	-.0252	.0292	.0124	10	.3389	.1900	-.0547	.0428	.0105
15	.5743	.2528	-.0434	.0634	.0294	15	.5987	.2734	-.0661	.0730	.0289
20	.7694	.3487	-.0832	.0896	.0431	20	.8517	.3979	-.1004	.1038	.0499
25	.9343	.4608	-.1225	.1088	.0591	25	1.0438	.5623	-.1591	.1299	.0713
M = 0.90						M = 1.10					
-10	-.4319	.1691	-.0616	-.0565	.0196	-10	-.4142	.1672	-.0631	-.0526	.0022
-7	-.3284	.1425	-.0436	-.0435	.0135	-7	-.2899	.1351	-.0752	-.0354	-.0044
-5	-.2379	.1285	-.0437	-.0357	.0103	-5	-.2071	.1201	-.0760	-.0245	-.0076
-3	-.1991	.1169	-.0603	-.0279	.0079	-3	-.1286	.1147	-.0755	-.0139	-.0108
-2	-.1707	.1159	-.0335	-.0235	.0068	-2	-.0959	.1136	-.0751	-.0099	-.0105
-1	-.1319	.1169	-.0230	-.0196	.0056	-1	-.0610	.1125	-.0711	-.0050	-.0133
0	-.1060	.1133	-.0279	-.0157	.0055	0	-.0392	.1136	-.0722	-.0007	-.0136
1	-.0724	.1107	-.0296	-.0118	.0053	1	-.0022	.1157	-.0657	.0033	-.0130
2	-.0362	.1120	-.0234	-.0075	.0055	2	.0371	.1201	-.0621	.0079	-.0111
3	.0129	.1146	-.0176	-.0027	.0051	3	.0632	.1242	-.0632	.0122	-.0105
5	.0776	.1195	-.0219	.0063	.0041	5	.1264	.1404	-.0593	.0205	-.0076
7	.1552	.1285	-.0203	.0145	.0060	7	.2158	.1491	-.0526	.0284	-.0019
10	.2974	.1629	-.0224	.0314	.0116	10	.3513	.1779	-.0519	.0417	.0054
15	.5741	.2506	-.0426	.0647	.0291	15	.5820	.2799	-.0688	.0724	.0228
20						20	.8218	.4181	-.0999	.1025	.0409
25	.9801	.4629	-.1280	.1146	.0656	25	1.0136	.5918	-.1584	.1293	.0608

TABLE 1.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL - Continued

 $\frac{t}{c} = 0.04$ $\frac{x}{c} = 0.80$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.4758	.1488	.0250	-.0617	.0148	-10	-.5564	.1860	.0237	-.0687	.0221
-7	-.3720	.1129	-.0089	-.0492	.0119	-7	-.4130	.1400	.0230	-.0491	.0153
-5	-.2811	.0956	-.0025	-.0394	.0088	-5	-.3338	.1241	.0243	-.0409	.0108
-3	-.2295	.0895	.0076	-.0322	.0069	-3	-.2596	.1095	.0252	-.0311	.0081
-2	-.2011	.0852	.0061	-.0282	.0054	-2	-.2226	.1071	.0343	-.0270	.0065
-1	-.1730	.0830	.0048	-.0243	.0050	-1	-.1904	.1034	.0242	-.0225	.0057
0	-.1406	.0830	.0112	-.0203	.0047	0	-.1508	.0962	.0257	-.0184	.0050
1	-.1211	.0830	.0102	-.0171	.0041	1	-.1212	.0912	.0299	-.0146	.0050
2	-.0865	.0744	.0121	-.0138	.0050	2	-.0742	.0972	.0331	-.0094	.0047
3	-.0433	.0744	.0308	-.0092	.0057	3	-.0371	.0937	.0293	-.0045	.0052
5	.0108	.0766	.0166	-.0013	.0069	5	.0396	.1034	.0323	.0056	.0059
7	.0779	.0934	.0287	.0092	.0072	7	.1256	.1095	.0275	.0142	.0057
10	.2055	.1276	.0186	.0249	.0091	10	.2720	.1434	.0225	.0315	.0095
15	.4650	.2362	-.0157	.0571	.0214	15	.5836	.2371	-.0144	.0694	.0248
20	.7137	.3724	-.0530	.0899	.0362	20	.8704	.3526	-.0757	.1058	.0442
25	.9148	.5147	-.1182	.1148	.0553	25	.9768	.4805	-.1234	.1193	.0580
M = 0.80						M = 1.00					
-10	-.5270	.1515	.0207	-.0659	.0188	-10	-.5392	.2036	.0173	-.0646	.0220
-7	-.4022	.1183	.0250	-.0521	.0128	-7	-.3855	.1629	.0091	-.0466	.0153
-5	-.3244	.0981	.0220	-.0423	.0100	-5	-.3027	.1339	.0047	-.0351	.0098
-3	-.2554	.0866	.0283	-.0343	.0081	-3	-.2223	.1279	.0081	-.0251	.0079
-2	-.2173	.0837	.0327	-.0298	.0074	-2	-.1797	.1220	.0052	-.0205	.0065
-1	-.1908	.0793	.0338	-.0263	.0060	-1	-.1561	.1164	.0036	-.0172	.0062
0	-.1615	.0793	.0363	-.0227	.0055	0	-.1182	.1220	.0099	-.0126	.0060
1	-.1233	.0737	.0366	-.0178	.0049	1	-.0757	.1140	.0069	-.0082	.0062
2	-.0998	.0737	.0365	-.0147	.0058	2	-.0331	.1164	.0073	-.0032	.0048
3	-.0514	.0752	.0443	-.0094	.0055	3	.0000	.1164	.0100	.0011	.0067
5	.0220	.0837	.0475	-.0004	.0049	5	.0733	.1175	.0118	.0093	.0074
7	.0954	.0925	.0425	.0085	.0053	7	.1774	.1291	.0028	.0205	.0079
10	.2334	.1227	.0269	.0245	.0086	10	.3240	.1629	-.0002	.0370	.0120
15	.5211	.2355	-.0173	.0601	.0237	15	.6149	.2467	-.0271	.0717	.0273
20	.7633	.3538	-.0635	.0922	.0378	20	.8869	.3838	-.0803	.1080	.0486
25	.9248	.4621	-.1122	.1122	.0535						
M = 0.85						M = 1.05					
-10	-.5586	.1557	.0245	-.0722	.0170	-10	-.5367	.1950	.0185	-.0642	.0170
-7	-.4265	.1219	.0228	-.0534	.0126	-7	-.3804	.1470	.0050	-.0460	.0095
-5	-.3440	.1015	.0270	-.0438	.0098	-5	-.2944	.1325	.0011	-.0344	.0048
-3	-.2697	.0867	.0342	-.0346	.0076	-3	-.2106	.1202	.0010	-.0241	.0018
-2	-.2421	.0812	.0365	-.0309	.0066	-2	-.1721	.1169	-.0030	-.0189	.0010
-1	-.2064	.0812	.0463	-.0267	.0064	-1	-.1359	.1125	-.0062	-.0144	.0005
0	-.1789	.0743	.0371	-.0229	.0060	0	-.0996	.1125	-.0001	-.0103	.0000
1	-.1403	.0743	.0481	-.0184	.0050	1	-.0679	.1114	.0008	.0065	.0000
2	-.1101	.0743	.0440	-.0142	.0046	2	-.0408	.1058	-.0064	-.0017	-.0018
3	-.0550	.0743	.0432	-.0096	.0042	3	.0113	.1114	.0051	.0027	.0010
5	.0138	.0812	.0461	.0000	.0052	5	.0815	.1225	.0083	.0113	.0030
7	.0936	.0881	.0445	.0096	.0056	7	.1698	.1302	.0071	.0203	.0066
10	.2339	.1233	.0340	.0255	.0086	10	.3193	.1694	.0016	.0378	.0117
15	.5476	.2328	-.0141	.0626	.0246	15	.6092	.2618	-.0325	.0722	.0260
20	.7842	.3451	-.0680	.0948	.0390	20	.8719	.4121	-.0898	.1058	.0454
25	.9356	.4601	-.1190	.1148	.0550	25	1.0779	.5904	-.1470	.1343	.0688
M = 0.90						M = 1.10					
-10	-.5623	.1682	.0257	-.0692	.0207	-10	-.5242	.1612	.0123	-.0613	.0068
-7	-.4276	.1337	.0278	-.0531	.0145	-7	-.3779	.1267	.0041	-.0444	.0037
-5	-.3446	.1135	.0274	-.0429	.0106	-5	-.2839	.1116	-.0054	-.0325	.0005
-3	-.2721	.0956	.0299	-.0342	.0079	-3	-.1988	.0968	-.0034	-.0225	-.0022
-2	-.2332	.0904	.0340	-.0295	.0066	-2	-.1638	.0968	-.0005	-.0182	-.0033
-1	-.1969	.0891	.0424	-.0256	.0058	-1	-.1311	.0946	-.0061	-.0136	-.0035
0	-.1684	.0829	.0403	-.0208	.0053	0	-.0874	.0902	-.0023	-.0086	-.0043
1	-.1373	.0829	.0429	-.0173	.0051	1	-.0721	.0968	.0116	-.0053	.0010
2	-.0959	.0803	.0448	-.0130	.0056	2	-.0262	.0946	.0027	-.0007	-.0019
3	-.0622	.0816	.0413	-.0083	.0056	3	.0109	.0968	.0080	.0033	-.0022
5	.0155	.0865	.0462	.0020	.0055	5	.0808	.1075	.0077	.0116	-.0006
7	.1011	.0995	.0436	.0110	.0056	7	.1638	.1182	.0101	.0205	.0014
10	.2462	.1337	.0314	.0287	.0086	10	.3123	.1612	.0037	.0371	.0078
15	.5623	.2358	-.0113	.0660	.0258	15	.5788	.2687	-.0303	.0692	.0195
20	.8085	.3376	-.0774	.0963	.0435	20	.8300	.4189	-.0859	.1021	.0390
25	.9510	.4651	-.1231	.1167	.0599	25	1.0375	.5952	-.1409	.1309	.0608

CONFIDENTIAL

TABLE 1 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL - Concluded

 $\frac{x}{c} = 0.04$
 $\frac{y}{c} = 1.00$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.6569	.1531	.1317	-.0792	.0218	-10	-.6859	.2175	.1394	-.0788	.0273
-7	-.5438	.1349	.1012	-.0647	.0206	-7	-.5244	.1663	.1253	-.0588	.0211
-5	-.4676	.1209	.1046	-.0554	.0164	-5	-.4498	.1504	.1277	-.0501	.0175
-3	-.3872	.1101	.0987	-.0469	.0139	-3	-.3653	.1320	.1276	-.0407	.0148
-2	-.3524	.1101	.1077	-.0423	.0123	-2	-.3380	.1260	.1254	-.0366	.0132
-1	-.3089	.1092	.1205	-.0383	.0108	-1	-.3032	.1198	.1213	-.0324	.0130
0	-.2806	.1027	.1039	-.0343	.0104	0	-.2659	.1101	.1218	-.0286	.0126
1	-.2458	.0996	.1007	-.0303	.0101	1	-.2286	.1076	.1267	-.0249	.0126
2	-.2110	.0996	.0994	-.0257	.0101	2	-.1889	.1051	.1171	-.0203	.0125
3	-.1675	.0961	.0952	-.0218	.0108	3	-.1516	.1014	.1262	-.0166	.0125
5	-.1022	.1040	.1049	-.0139	.0110	5	-.0621	.1051	.1200	-.0075	.0128
7	-.0152	.1157	.1008	-.0027	.0117	7	.0249	.1136	.1127	.0041	.0130
10	.1044	.1475	.0858	.0139	.0136	10	.1963	.1441	.0866	.0253	.0148
15	.3654	.2493	.0376	.0469	.0244	15	.5219	.2421	.0218	.0656	.0284
20	.6221	.4046	-.0419	.0818	.0382	20	.8276	.3703	-.0708	.1018	.0495
25	.8439	.5542	-.1428	.1096	.0528	25	.9394	.5048	-.1280	.1154	.0645
M = 0.80						M = 1.00					
-10	-.6821	.1727	.1351	-.0788	.0230	-10	-.6893	.2220	.1438	-.0797	.0297
-7	-.5418	.1453	.1249	-.0614	.0178	-7	-.5277	.1730	.1218	-.0602	.0225
-5	-.4680	.1264	.1239	-.0524	.0180	-5	-.4445	.1497	.1160	-.0490	.0190
-3	-.3868	.1104	.1228	-.0430	.0127	-3	-.3613	.1379	.1236	-.0404	.0159
-2	-.3499	.1060	.1254	-.0394	.0116	-2	-.3256	.1286	.1205	-.0364	.0149
-1	-.3218	.0986	.1221	-.0358	.0111	-1	-.2900	.1262	.1276	-.0321	.0136
0	-.2790	.0960	.1224	-.0318	.0101	0	-.2496	.1205	.1268	-.0281	.0133
1	-.2421	.0915	.1300	-.0282	.0097	1	-.2187	.1181	.1219	-.0238	.0128
2	-.2096	.0901	.1194	-.0237	.0101	2	-.1830	.1146	.1223	-.0198	.0128
3	-.1727	.0901	.1281	-.0197	.0094	3	-.1355	.1146	.1230	-.0155	.0130
5	-.0945	.0856	.1220	-.0112	.0092	5	-.0475	.1146	.1148	-.0054	.0124
7	-.0162	.0986	.1198	-.0004	.0107	7	.0428	.1205	.1053	.0054	.0138
10	.1373	.1308	.1017	.0179	.0133	10	.2092	.1497	.0803	.0256	.0164
15	.4326	.2368	.0092	.0537	.0262	15	.5443	.2491	.0115	.0678	.0304
20	.6909	.3673	-.0549	.0856	.0410	20	.8509	.3893	-.0616	.1044	.0530
25	.8947	.4981	-.1365	.1102	.0582	25	1.0054	.5412	-.1365	.1244	.0703
M = 0.85						M = 1.05					
-10	-.6972	.2014	.1368	-.0793	.0265	-10	-.6871	.2105	.1456	-.0784	.0251
-7	-.5450	.1524	.1268	-.0613	.0195	-7	-.5324	.1611	.1263	-.0587	.0189
-5	-.4592	.1333	.1234	-.0516	.0161	-5	-.4255	.1433	.1173	-.0469	.0156
-3	-.3790	.1129	.1252	-.0420	.0135	-3	-.3458	.1265	.1214	-.0376	.0124
-2	-.3513	.1062	.1273	-.0386	.0129	-2	-.3231	.1208	.1167	-.0342	.0111
-1	-.3098	.1035	.1338	-.0340	.0121	-1	-.2821	.1154	.1138	-.0297	.0106
0	-.2822	.0952	.1226	-.0306	.0114	0	-.2548	.1108	.1159	-.0262	.0094
1	-.2407	.0924	.1271	-.0273	.0114	1	-.2093	.1097	.1197	-.0228	.0098
2	-.1992	.0913	.1297	-.0227	.0114	2	-.1752	.1040	.1140	-.0186	.0098
3	-.1577	.0858	.1228	-.0181	.0121	3	-.1342	.1040	.1221	-.0142	.0091
5	-.0885	.0913	.1295	-.0105	.0123	5	-.0478	.1097	.1152	-.0045	.0099
7	.0083	.0913	.1294	.0034	.0114	7	.0410	.1208	.1076	.0073	.0106
10	.1494	.1333	.1012	.0206	.0145	15	.5415	.2551	.0182	.0659	.0286
15	.4648	.2354	.0316	.0604	.0245	20	.8259	.4061	-.0614	.1032	.0478
20	.7276	.3646	-.0679	.0915	.0444	25	1.0534	.5886	-.1335	.1336	.0714
25	.8991	.4938	-.1465	.1133	.0587						
M = 0.90						M = 1.10					
-10	-.6823	.1958	.1351	-.0786	.0259	-10	-.6627	.1920	.1415	-.0752	.0198
-7	-.5443	.1524	.1256	-.0608	.0202	-7	-.5157	.1490	.1282	-.0583	.0163
-5	-.4584	.1320	.1246	-.0506	.0161	-5	-.4323	.1273	.1169	-.0469	.0128
-3	-.3750	.1177	.1297	-.0419	.0136	-3	-.3445	.1132	.1227	-.0383	.0100
-2	-.3438	.1063	.1253	-.0375	.0127	-2	-.3160	.1113	.1182	-.0340	.0091
-1	-.3021	.1024	.1303	-.0328	.0123	-1	-.2721	.1058	.1234	-.0306	.0078
0	-.2761	.0948	.1234	-.0292	.0117	0	-.2392	.1058	.1253	-.0263	.0072
1	-.2370	.0935	.1294	-.0261	.0114	1	-.2085	.1003	.1249	-.0226	.0072
2	-.1953	.0870	.1204	-.0213	.0114	2	-.1690	.1003	.1190	-.0180	.0075
3	-.1484	.0870	.1245	-.0170	.0117	3	-.1295	.1003	.1254	-.0140	.0075
5	-.0781	.0935	.1276	-.0083	.0119	5	-.0373	.1058	.1180	-.0027	.0069
7	.0078	.1000	.1196	.0028	.0127	7	.0505	.1165	.1071	.0083	.0069
10	.1406	.1383	.1055	.0237	.0146	10	.2151	.1598	.0815	.0290	.0091
15	.5026	.2383	.0292	.0640	.0269	15	.5201	.2655	.0247	.0656	.0198
20	.7631	.3625	-.0766	.0952	.0430	20	.7856	.4187	-.0529	.1005	.0394
25	.9089	.4930	-.1399	.1154	.0587						

CONFIDENTIAL

TABLE 2 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL *

 $\frac{x}{c} = 0.04$ $\frac{y}{c} = \text{NONE}$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-.4901	.0607	-.0197	-.0623	.0104	-10	-.5492	.1091	.0115	-.0699	.0116
-7	-.3432	.0290	-.0331	-.0418	.0045	-7	-.4068	.0588	-.0077	-.0478	.0063
-5	-.2306	.0210	-.0237	-.0280	.0037	-5	-.2880	.0347	-.0159	-.0325	.0041
-3	-.1233	.0184	-.0082	-.0151	.0023	-3	-.1605	.0217	-.0142	-.0175	.0025
-2	-.0804	.0184	-.0147	-.0098	.0022	-2	-.1042	.0181	-.0114	-.0112	.0020
-1	-.0322	.0191	-.0073	-.0041	.0021	-1	-.0490	.0184	.0018	-.0045	.0019
0	.0129	.0206	-.0038	.0016	.0020	0	.0184	.0202	.0103	.0032	.0019
1	.0483	.0210	-.0009	.0062	.0020	1	.0674	.0211	.0183	.0087	.0019
2	.0997	.0238	.0039	.0122	.0023	2	.1287	.0265	.0283	.0164	.0030
3	.1287	.0307	.0143	.0186	.0028	3	.1887	.0326	.0318	.0229	.0041
5	.2488	.0517	.0176	.0309	.0053	5	.3284	.0543	.0241	.0394	.0064
7	.3593	.0839	.0292	.0451	.0081	7	.4411	.0799	.0148	.0543	.0117
10	.5201	.1424	.0134	.0672	.0173	10	.6127	.1301	-.0094	.0755	.0188
15	.6713	.2542	-.0397	.0901	.0316	15	.8087	.2470	-.0541	.1641	.0348
20	.7249	.3427	-.0786	.0947	.0422	20	.9190	.3761	-.1234	.1145	.0497
25	.6971	.4146	-.0570	.0918	.0496	25	.9190	.4820	-.1345	.1149	.0602
M = 0.80						M = 1.00					
-10	-.5386	.0758	-.0174	-.0667	.0111	-10	-.6026	.1248	.0368	-.0734	.0129
-7	-.3639	.0344	-.0339	-.0433	.0063	-7	-.4103	.0692	.0043	-.0489	.0065
-5	-.2548	.0197	-.0251	-.0296	.0044	-5	-.2813	.0415	-.0071	-.0329	.0039
-3	-.1383	.0132	-.0160	-.0159	.0026	-3	-.1645	.0288	-.0086	-.0189	.0025
-2	-.0873	.0125	-.0087	-.0099	.0022	-2	-.1035	.0243	-.0078	-.0116	.0023
-1	-.0437	.0125	-.0035	-.0044	.0021	-1	-.0449	.0231	.0002	-.0048	.0018
0	.0146	.0130	.0020	.0022	.0021	0	.0164	.0231	.0069	.0021	.0017
1	.0568	.0147	.0095	.0073	.0020	1	.0821	.0202	.0099	.0091	.0019
2	.1092	.0197	.0184	.0157	.0025	2	.1524	.0288	.0180	.0174	.0032
3	.1674	.0250	.0279	.0201	.0039	3	.2110	.0340	.0143	.0244	.0041
5	.2839	.0447	.0366	.0347	.0058	5	.3517	.0559	.0000	.0414	.0071
7	.4003	.0699	.0350	.0495	.0097	7	.4806	.0836	-.0119	.0549	.0116
10	.5605	.1288	.0190	.0716	.0175	10	.6682	.1442	-.0443	.0813	.0203
15	.6799	.2326	-.0529	.0879	.0308	15	.9027	.2709	-.0784	.1152	.0386
20	.7425	.3236	-.0858	.0941	.0416	20	1.0316	.4151	-.1261	.1305	.0547
25	.7570	.4152	-.0971	.0961	.0513	25	1.0551	.5477	-.1679	.1334	.0695
M = 0.85						M = 1.05					
-10	-.5926	.0916	-.0094	-.0673	.0109	-10	-.6129	.1298	.0553	-.0724	.0118
-7	-.3859	.0437	-.0308	-.0457	.0061	-7	-.4258	.0762	.0277	-.0501	.0060
-5	-.2592	.0246	-.0277	-.0302	.0039	-5	-.3031	.0497	.0157	-.0349	.0034
-3	-.1364	.0171	-.0133	-.0157	.0026	-3	-.1684	.0331	.0049	-.0191	.0015
-2	-.0955	.0141	-.0066	-.0104	.0022	-2	-.1190	.0276	.0063	-.0119	.0012
-1	-.0409	.0141	.0005	-.0046	.0021	-1	-.0449	.0248	.0017	-.0048	.0013
0	.0164	.0151	.0076	.0027	.0021	0	.0292	.0265	.0001	.0034	.0007
1	.0614	.0177	.0162	.0083	.0018	1	.0943	.0293	.0039	.0107	.0015
2	.1160	.0218	.0233	.0143	.0026	2	.1616	.0320	.0000	.0181	.0026
3	.1719	.0285	.0318	.0213	.0037	3	.2290	.0386	-.0037	.0257	.0033
5	.2934	.0480	.0425	.0362	.0060	5	.3592	.0607	-.0150	.0409	.0065
7	.4230	.0768	.0334	.0526	.0098	7	.4872	.0883	-.0308	.0564	.0109
10	.5731	.1299	.0152	.0729	.0177	10	.6623	.1479	-.0611	.0788	.0190
15	.7040	.2329	-.0584	.0892	.0315	15	.9429	.2926	-.1057	.1165	.0379
20	.7839	.3355	-.1017	.0989	.0434	20	1.1450	.4437	-.0796	.1441	.0605
25	.8050	.4362	-.1100	.1010	.0547	25	1.1988	.6183	-.1917	.1509	.0398
M = 0.90						M = 1.10					
-10	-.5650	.0985	-.0025	-.0697	.0119	-10	-.6050	.1249	.0541	-.0697	.0097
-7	-.3968	.0521	-.0192	-.0477	.0067	-7	-.4256	.0734	.0315	-.0483	.0046
-5	-.2761	.0284	-.0251	-.0314	.0043	-5	-.2874	.0521	.0156	-.0339	.0013
-3	-.1541	.0186	-.0167	-.0167	.0027	-3	-.1793	.0346	.0091	-.0185	.0003
-2	-.0989	.0158	-.0093	-.0103	.0021	-2	-.1145	.0308	.0047	-.0115	.0005
-1	-.0449	.0149	.0021	-.0041	.0021	-1	-.0540	.0292	.0118	-.0041	.0005
0	.0064	.0158	.0069	.0017	.0020	0	.0216	.0255	.0018	.0034	.0017
1	.0616	.0190	.0179	.0084	.0020	1	.0864	.0292	.0034	.0107	.0007
2	.1156	.0221	.0203	.0146	.0026	2	.1512	.0346	.0019	.0180	.0002
3	.1862	.0300	.0344	.0226	.0040	3	.2161	.0446	-.0026	.0256	.0015
5	.3184	.0521	.0364	.0390	.0066	5	.3457	.0627	-.0176	.0405	.0037
7	.4366	.0790	.0078	.0536	.0103	7	.4645	.0956	-.0274	.0549	.0079
10	.5817	.1279	.0124	.0730	.0172	10	.6331	.1548	-.0584	.0782	.0158
15	.7499	.2368	-.0618	.0939	.0327	15	.9031	.2922	-.1088	.1121	.0342
20	.8375	.3536	-.1101	.1052	.0463	20	1.1235	.4676	-.1549	.1413	.0575
25	.8526	.4547	-.1226	.1075	.0566						

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

 $\frac{t}{c} = 0.04$ $\frac{x_h}{c} = 0.40$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.4314	.1613	-.1193	-.0542	.0201	-10	-.4852	.2283	-.1090	-.0618	.0264
-7	-.3710	.1294	-.1277	-.0438	.0153	-7	-.4975	.1980	-.0803	-.0607	.0222
-5	-.2998	.1135	-.1286	-.0340	.0125	-5	-.4606	.1768	-.0721	-.0544	.0189
-3	-.2200	.1061	-.1196	-.0229	.0108	-3	-.3621	.1557	-.0779	-.0432	.0159
-2	-.1835	.1040	-.1114	-.0180	.0103	-2	-.3005	.1436	-.0836	-.0346	.0148
-1	-.1445	.1040	-.1065	-.0133	.0102	-1	-.2340	.1405	-.0873	-.0262	.0139
0	-.1100	.1029	-.1037	-.0090	.0101	0	-.1798	.1387	-.0810	-.0202	.0132
1	-.0712	.1063	-.0990	-.0052	.0101	1	-.1355	.1405	-.0825	-.0144	.0129
2	-.0367	.1083	-.0949	-.0011	.0103	2	-.0956	.1332	-.0765	-.0105	.0127
3	.0000	.1135	-.0910	.0033	.0108	3	-.0419	.1363	-.0745	-.0037	.0132
5	.0712	.1240	-.0801	.0137	.0106	5	.0690	.1465	-.0817	.0099	.0134
7	.1639	.1348	-.0686	.0237	.0111	7	.1724	.1526	-.0780	.0234	.0141
10	.2924	.1719	-.0624	.0499	.0177	10	.4162	.1799	-.0762	.0523	.0215
15	.6212	.2599	-.0565	.0798	.0357	15	.7216	.2555	-.0927	.0895	.0358
20	.7463	.3363	-.0830	.0955	.0457	20	.8940	.3657	-.1222	.1106	.0498
25	.7485	.4105	-.0985	.0952	.0522	25	.9433	.4833	-.1491	.1173	.0618
M = 0.80						M = 1.00					
-10	-.5079	.1951	-.1012	-.0646	.0234	-10	-.4994	.2572	-.0808	-.0622	.0300
-7	-.4786	.1598	-.1191	-.0584	.0188	-7	-.4051	.2164	-.0948	-.0479	.0247
-5	-.3981	.1582	-.1123	-.0471	.0156	-5	-.3345	.1876	-.1047	-.0389	.0214
-3	-.3132	.1253	-.1064	-.0351	.0132	-3	-.2403	.1703	-.1104	-.0268	.0188
-2	-.2649	.1216	-.0986	-.0286	.0121	-2	-.1932	.1645	-.1132	-.0214	.0175
-1	-.2225	.1202	-.0936	-.0229	.0115	-1	-.0989	.1703	-.1276	-.0098	.0169
0	-.1786	.1202	-.0889	-.0178	.0112	0	-.0518	.1622	-.1238	-.0045	.0169
1	-.1346	.1202	-.0842	-.0127	.0110	1	-.0283	.1588	-.1141	-.0018	.0165
2	-.0951	.1202	-.0824	-.0078	.0108	2	.0118	.1588	-.1151	.0045	.0163
3	-.0468	.1216	-.0749	-.0029	.0112	3	.0660	.1645	-.1131	.0102	.0164
5	.0410	.1295	-.0656	.0084	.0115	5	.1649	.1761	-.1133	.0222	.0169
7	.1507	.1382	-.0602	.0215	.0120	7	.2544	.1761	-.1011	.0331	.0178
10	.3805	.1670	-.0564	.0486	.0193	10	.4629	.2108	-.1020	.0593	.0247
15	.6484	.2425	-.0549	.0822	.0341	15	.7679	.2827	-.1093	.0951	.0383
20	.7698	.3217	-.0902	.0957	.0436	20	.9493	.4077	-.1374	.1204	.0553
25	.7903	.4203	-.1077	.0988	.0542						
M = 0.85						M = 1.05					
-10	-.5651	.2138	-.1057	-.0707	.0249	-10	-.4849	.2518	-.0724	-.0616	.0279
-7	-.5309	.1763	-.1018	-.0645	.0204	-7	-.3837	.2096	-.0881	-.0459	.0225
-5	-.4444	.1512	-.1022	-.0531	.0169	-5	-.2977	.1886	-.1026	-.0344	.0197
-3	-.3388	.1362	-.0994	-.0391	.0142	-3	-.1962	.1741	-.1202	-.0221	.0170
-2	-.2949	.1309	-.0959	-.0323	.0133	-2	-.1444	.1686	-.1246	-.0152	.0156
-1	-.2428	.1288	-.0942	-.0256	.0125	-1	-.0947	.1686	-.1315	-.0087	.0154
0	-.1948	.1269	-.0841	-.0198	.0109	0	-.0316	.1686	-.1293	-.0015	.0152
1	-.1399	.1276	-.0832	-.0139	.0115	1	.0180	.1709	-.1237	.0051	.0152
2	-.1056	.1262	-.0847	-.0092	.0115	2	.0564	.1741	-.1279	.0111	.0149
3	-.0521	.1262	-.0759	-.0040	.0119	3	.1083	.1797	-.1230	.0166	.0155
5	.0439	.1329	-.0707	.0083	.0120	5	.2053	.1930	-.1208	.0281	.0161
7	.1550	.1431	-.0641	.0216	.0128	7	.3000	.2074	-.1150	.0397	.0186
10	.3813	.1667	-.0556	.0483	.0192	10	.5030	.2296	-.1058	.0626	.0248
15	.6625	.2428	-.0581	.0832	.0342	15	.7917	.3128	-.1272	.0992	.0397
20	.7928	.3278	-.0951	.0982	.0444						
25	.8450	.4411	-.1182	.1061	.0568						
M = 0.90						M = 1.10					
-10	-.5473	.2254	-.0981	-.0687	.0249	-10	-.4929	.2424	-.0603	-.0596	.0230
-7	-.5551	.1917	-.0813	-.0666	.0206	-7	-.3843	.2018	-.0846	-.0435	.0174
-5	-.4931	.1695	-.0769	-.0588	.0175	-5	-.2975	.1837	-.0978	-.0328	.0146
-3	-.3795	.1454	-.0854	-.0443	.0144	-3	-.1911	.1730	-.1091	-.0203	.0120
-2	-.3279	.1410	-.0846	-.0374	.0134	-2	-.1411	.1656	-.1182	-.0140	.0110
-1	-.2765	.1358	-.0802	-.0302	.0124	-1	-.0912	.1623	-.1206	-.0077	.0100
0	-.2143	.1346	-.0785	-.0235	.0117	0	-.0282	.1623	-.1310	-.0003	.0096
1	-.1601	.1301	-.0784	-.0163	.0114	1	.0065	.1645	-.1584	.0051	.0091
2	-.1136	.1314	-.0762	-.0106	.0113	2	.0499	.1720	-.1251	.0112	.0096
3	-.0568	.1314	-.0782	-.0047	.0115	3	.1042	.1826	-.1155	.0166	.0099
5	.0413	.1377	-.0740	.0082	.0120	5	.1911	.1943	-.1178	.0280	.0122
7	.1497	.1466	-.0702	.0217	.0127	7	.2997	.2072	-.1107	.0395	.0146
10	.3950	.1695	-.0654	.0488	.0192	10	.4842	.2350	-.0964	.0611	.0219
15	.6816	.2457	-.0698	.0856	.0341	15	.7709	.3171	-.1226	.0972	.0368
20	.8391	.3453	-.1095	.1038	.0462						
25	.8726	.4469	-.1257	.1085	.0572						

TABLE 2 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL -- Continued

 $\frac{x}{c} = 0.04$ $\frac{y}{c} = 0.60$

α , deg	C_L	C_D	C_M	C_L	C_D	α , deg	C_L	C_D	C_M	C_L	C_D
M = 0.60						M = 0.95					
-10	-.6503	.1839	-.0500	-.0819	.0245	-10	-.7310	.2672	-.0406	-.0890	.0317
-7	-.5466	.1350	-.0694	-.0652	.0183	-7	-.6717	.2125	-.0214	-.0792	.0252
-5	-.4537	.1232	-.0575	-.0528	.0146	-5	-.5803	.1821	-.0256	-.0678	.0206
-3	-.3716	.1115	-.0461	-.0416	.0112	-3	-.4248	.1519	-.0422	-.0500	.0168
-2	-.3241	.1074	-.0388	-.0357	.0101	-2	-.3630	.1457	-.0411	-.0416	.0150
-1	-.2852	.1063	-.0357	-.0305	.0092	-1	-.3087	.1421	-.0349	-.0360	.0136
0	-.2377	.1063	-.0302	-.0246	.0090	0	-.2519	.1361	-.0326	-.0277	.0129
1	-.1988	.1031	-.0314	-.0197	.0087	1	-.1976	.1326	-.0297	-.0219	.0126
2	-.1556	.1063	-.0217	-.0144	.0087	2	-.1408	.1276	-.0329	-.0148	.0123
3	-.1123	.1063	-.0182	-.0092	.0087	3	-.0716	.1276	-.0282	-.0069	.0119
5	-.0108	.1115	-.0087	.0036	.0090	5	.0494	.1336	-.0254	.0084	.0121
7	.1080	.1275	-.0008	.0174	.0089	7	.1852	.1397	-.0229	.0245	.0139
10	.3565	.1752	-.0147	.0459	.0159	10	.4492	.1883	-.0418	.0577	.0240
15	.6071	.2709	-.0309	.0813	.0323	15	.7952	.2854	-.0671	.0993	.0406
20	.7389	.3507	-.0752	.0977	.0430	20	.9211	.3825	-.1193	.1158	.0524
25	.7476	.4304	-.0864	.0983	.0523	25	.9508	.4943	-.1413	.1210	.0641
M = 0.80						M = 1.00					
-10	-.7626	.2272	-.0497	-.0925	.0270	-10	-.7036	.2845	-.0364	-.0849	.0336
-7	-.6306	.1767	-.0571	-.0750	.0208	-7	-.5645	.2346	-.0572	-.0666	.0253
-5	-.5279	.1478	-.0519	-.0616	.0145	-5	-.4722	.1997	-.0640	-.0550	.0217
-3	-.4399	.1298	-.0385	-.0496	.0131	-3	-.3542	.1683	-.0726	-.0403	.0180
-2	-.3813	.1233	-.0294	-.0432	.0116	-2	-.2786	.1661	-.0791	-.0304	.0166
-1	-.3285	.1189	-.0252	-.0367	.0105	-1	-.2125	.1683	-.0865	-.0211	.0156
0	-.2786	.1161	-.0236	-.0300	.0100	0	-.1417	.1626	-.0884	-.0138	.0143
1	-.2288	.1139	-.0147	-.0243	.0097	1	-.0826	.1626	-.0780	-.0073	.0148
2	-.1848	.1110	-.0132	-.0180	.0094	2	-.0354	.1568	-.0709	-.0016	.0149
3	-.1320	.1117	-.0050	-.0125	.0094	3	.0047	.1568	-.0653	.0041	.0148
5	-.0147	.1103	.0037	.0013	.0096	5	.1417	.1683	-.0651	.0193	.0160
7	.1144	.1189	.0005	.0165	.0100	7	.2715	.1719	-.0595	.0351	.0199
10	.3842	.1623	-.0164	.0487	.0190	10	.5194	.2090	-.0671	.0634	.0279
15	.6453	.2452	-.0420	.0839	.0174	15	.8382	.3078	-.0885	.1032	.0453
20	.7775	.3317	-.0812	.0990	.0223	20	.9798	.4180	-.1321	.1239	.0589
25	.8066	.4328	-.0946	.1019	.0270	25	1.0979	.5690	-.1737	.1393	.0793
M = 0.85						M = 1.05					
-10	-.7837	.2502	-.0595	-.0953	.0309	-10	-.6782	.2780	-.0416	-.0809	.0304
-7	-.6737	.1921	-.0474	-.0805	.0237	-7	-.5494	.2246	-.0525	-.0638	.0228
-5	-.5610	.1622	-.0454	-.0663	.0192	-5	-.4408	.1945	-.0673	-.0508	.0191
-3	-.4537	.1379	-.0355	-.0519	.0152	-3	-.3278	.1724	-.0784	-.0355	.0158
-2	-.3987	.1312	-.0247	-.0455	.0136	-2	-.2645	.1667	-.0824	-.0274	.0142
-1	-.3437	.1244	-.0238	-.0386	.0123	-1	-.1854	.1646	-.0842	-.0192	.0133
0	-.2887	.1217	-.0229	-.0317	.0115	0	-.1402	.1612	-.0837	-.0125	.0117
1	-.2392	.1203	-.0167	-.0252	.0112	1	-.0836	.1612	-.0829	-.0060	.0125
2	-.1925	.1203	-.0138	-.0188	.0109	2	-.0339	.1612	-.0804	.0007	.0135
3	-.1265	.1149	-.0079	-.0119	.0104	3	.0271	.1612	-.0745	.0075	.0128
5	-.0137	.1163	.0009	.0021	.0102	5	.1402	.1701	-.0667	.0207	.0135
7	.1237	.1284	.0034	.0181	.0110	7	.2871	.1835	-.0662	.0376	.0176
10	.3850	.1622	-.0181	.0494	.0187	10	.5087	.2202	-.0692	.0638	.0261
15	.6820	.2542	-.0480	.0880	.0354	15	.8365	.3336	-.1086	.1043	.0434
20	.8222	.3462	-.0897	.1043	.0464	20	1.0580	.4837	-.1462	.1173	.0637
25	.8414	.4530	-.1093	.1080	.0578	25	1.2027	.6338	-.1957	.1512	.0845
M = 0.90						M = 1.10					
-10	-.7507	.2546	-.0367	-.0927	.0294	-10	-.5507	.2729	-.0602	-.0786	.0249
-7	-.6963	.2037	-.0307	-.0813	.0235	-7	-.5398	.2194	-.0489	-.0616	.0185
-5	-.5850	.1719	-.0331	-.0689	.0192	-5	-.4310	.1926	-.0630	-.0482	.0156
-3	-.4711	.1464	-.0272	-.0540	.0152	-3	-.3156	.1734	-.0724	-.0345	.0119
-2	-.4090	.1337	-.0219	-.0469	.0135	-2	-.2568	.1638	-.1090	-.0267	.0102
-1	-.3546	.1311	-.0167	-.0397	.0122	-1	-.2002	.1605	-.0798	-.0193	.0093
0	-.2925	.1248	-.0163	-.0318	.0111	0	-.1415	.1585	-.0808	-.0121	.0079
1	-.2382	.1222	.0554	-.0255	.0108	1	-.0871	.1574	-.0794	-.0061	.0081
2	-.1812	.1209	-.0203	-.0183	.0103	2	-.0392	.1552	-.0777	.0005	.0087
3	-.1165	.1209	-.0154	-.0112	.0103	3	.0174	.1605	-.0697	.0074	.0087
5	.0026	.1209	-.0068	.0037	.0103	5	.1306	.1669	-.0602	.0211	.0104
7	.1527	.1337	-.0098	.0202	.0119	7	.2830	.1798	-.0595	.0373	.0148
10	.4271	.1719	-.0268	.0524	.0207	10	.4897	.2194	-.0657	.0616	.0239
15	.7196	.2546	-.0579	.0913	.0177	15	.7944	.3296	-.1259	.1004	.0399
20	.8439	.3565	-.1035	.1076	.0476	20	1.0121	.4870	-.1470	.1314	.0592
25	.8801	.4647	-.1218	.1111	.0593	25	1.2058	.6680	-.1693	.1532	.0845



TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

 $\frac{t}{c} = 0.04$ $\frac{x}{c} = 0.80$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.7948	.2066	.0250	-.0989	.0277	-10	-.8961	.2946	.0794	-.1085	.0351
-7	-.6497	.1566	.0134	-.0782	.0195	-7	-.7302	.2191	.0578	-.0875	.0259
-5	-.5349	.1299	.0133	-.0641	.0150	-5	-.5990	.1850	.0369	-.0713	.0210
-3	-.4266	.1107	.0211	-.0506	.0118	-3	-.4480	.1583	.0181	-.0522	.0173
-2	-.3768	.1087	.0232	-.0450	.0102	-2	-.3787	.1460	.0240	-.0447	.0156
-1	-.3357	.1033	.0305	-.0394	.0094	-1	-.3144	.1425	.0279	-.0372	.0144
0	-.2837	.0979	.0350	-.0335	.0087	0	-.2673	.1364	.0326	-.0304	.0131
1	-.2425	.0927	.0363	-.0282	.0083	1	-.2154	.1266	.0327	-.0240	.0126
2	-.1884	.0916	.0462	-.0227	.0085	2	-.1535	.1241	.0304	-.0169	.0121
3	-.1343	.0873	.0432	-.0164	.0083	3	-.0743	.1145	.0396	-.0094	.0115
5	-.0260	.0927	.0494	-.0039	.0083	5	.0644	.1181	.0395	.0060	.0117
7	.0931	.1011	.0546	.0115	.0087	7	.2054	.1339	.0305	.0229	.0144
10	.3205	.1492	.0283	.0384	.0156	10	.4777	.1790	-.0002	.0548	.0230
15	.6129	.2642	-.0274	.0782	.0335	15	.8292	.2885	-.0513	.0995	.0419
20	.7710	.3430	-.0817	.0982	.0442	20	.9431	.3823	-.1277	.1168	.0531
25	.7645	.4227	-.0981	.0972	.0535	25	.9604	.4918	-.1450	.1194	.0633
M = 0.80						M = 1.00					
-10	-.8820	.2415	.0366	-.1081	.0315	-10	-.8336	.2993	.0644	-.1006	.0344
-7	-.6967	.1821	.0215	-.0843	.0235	-7	-.6797	.2329	.0415	-.0868	.0257
-5	-.5821	.1489	.0262	-.0700	.0185	-5	-.5684	.1945	.0279	-.0645	.0220
-3	-.4704	.1273	.0419	-.0562	.0250	-3	-.4310	.1654	.0149	-.0503	.0181
-2	-.4145	.1186	.0452	-.0495	.0128	-2	-.3481	.1596	.0065	-.0413	.0165
-1	-.3734	.1113	.0532	-.0435	.0114	-1	-.3008	.1537	.0117	-.0341	.0151
0	-.3146	.1070	.0542	-.0368	.0100	0	-.2297	.1445	.0103	-.0266	.0146
1	-.2646	.1013	.0576	-.0308	.0091	1	-.1705	.1421	.0158	-.0194	.0131
2	-.2117	.0969	.0602	-.0243	.0085	2	-.1160	.1375	.0180	-.0126	.0127
3	-.1441	.0939	.0592	-.0165	.0081	3	-.0497	.1363	.0204	-.0047	.0133
5	-.0206	.0897	.0657	-.0027	.0084	5	.0900	.1385	.0172	.0108	.0141
7	.1088	.1041	.0674	.0127	.0094	7	.2510	.1537	.0083	.0291	.0172
10	.3645	.1504	.0265	.0435	.0174	10	.5044	.1886	-.0211	.0593	.0250
15	.6556	.2487	-.0362	.0825	.0337	15	.8360	.3051	-.0709	.1006	.0435
20	.7908	.3340	-.0868	.0988	.0441	20	1.0373	.4391	-.1109	.1293	.0620
25	.8085	.4294	-.1067	.1003	.0549						
M = 0.85						M = 1.05					
-10	-.9013	.2603	.0503	-.1108	.0330	-10	-.8050	.2866	.0664	-.0943	.0307
-7	-.7221	.1925	.0304	-.0878	.0246	-7	-.6531	.2209	.0446	-.0767	.0227
-5	-.5954	.1586	.0336	-.0711	.0194	-5	-.5556	.1884	.0371	-.0640	.0196
-3	-.4603	.1315	.0404	-.0560	.0351	-3	-.4240	.1595	.0233	-.0485	.0148
-2	-.4162	.1247	.0479	-.0493	.0136	-2	-.3605	.1528	.0224	-.0413	.0129
-1	-.3583	.1138	.0520	-.0422	.0122	-1	-.2880	.1405	.0162	-.0323	.0122
0	-.3087	.1112	.0520	-.0364	.0114	0	-.2358	.1395	.0182	-.0261	.0110
1	-.2536	.1043	.0591	-.0297	.0106	1	-.1791	.1361	.0222	-.0200	.0104
2	-.2012	.1003	.0570	-.0234	.0100	2	-.1179	.1316	.0221	-.0120	.0104
3	-.1351	.0976	.0629	-.0155	.0092	3	-.0431	.1316	.0247	-.0045	.0112
5	-.0083	.0976	.0686	-.0013	.0094	5	.0862	.1372	.0257	.0114	.0124
7	.1185	.1098	.0633	.0134	.0100	7	.2562	.1528	.0101	.0306	.0163
10	.3804	.1519	.0331	.0447	.0170	10	.4875	.1918	-.0236	.0578	.0239
15	.6836	.2534	-.0466	.0861	.0339	15	.8118	.3167	-.0723	.0984	.0415
20	.8269	.3416	-.0977	.1029	.0451						
25	.8355	.4420	-.1140	.1045	.0557						
M = 0.90						M = 1.10					
-10	-.9133	.2744	.0646	-.1106	.0330	-10	-.7682	.2651	.0618	-.0920	.0257
-7	-.7447	.2042	.0475	-.0897	.0245	-7	-.6373	.2061	.0437	-.0742	.0195
-5	-.6020	.1672	.0387	-.0720	.0192	-5	-.5281	.1760	.0358	-.0616	.0159
-3	-.4725	.1430	.0373	-.0563	.0153	-3	-.4147	.1524	-.0333	-.0480	.0128
-2	-.4152	.1327	.0439	-.0488	.0138	-2	-.3514	.1416	.0226	-.0401	.0111
-1	-.3555	.1251	.0499	-.0417	.0123	-1	-.2990	.1363	.0222	-.0334	.0100
0	-.3036	.1174	.0544	-.0354	.0113	0	-.2335	.1331	.0252	-.0262	.0108
1	-.2517	.1111	.0517	-.0287	.0106	1	-.1702	.1277	.0269	-.0189	.0087
2	-.1972	.1047	.0520	-.0224	.0104	2	-.1135	.1256	.0242	-.0116	.0089
3	-.1220	.1034	.0578	-.0138	.0100	3	-.0393	.1256	.0293	-.0036	.0095
5	.0078	.1047	.0603	.0008	.0104	5	.0982	.1363	.0268	.0129	.0108
7	.1635	.1187	.0563	.0181	.0119	7	.2510	.1524	.0116	.0298	.0143
10	.4229	.1620	.0230	.0488	.0198	10	.4758	.2007	-.0202	.0563	.0214
15	.7343	.2552	-.0503	.0909	.0364	15	.7748	.3187	-.0779	.0950	.0373
20	.8640	.3535	-.0753	.1079	.0473	20	1.0105	.4798	-.1245	.1261	.0582
25	.8900	.4620	-.1277	.1110	.0588						



TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL -- Continued

$$\frac{t}{c} = 0.04 \quad \frac{x}{c} = 1.00$$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.9563	.2485	.1563	-.1201	.0329	-10	-1.0534	.3231	.2288	-.1278	.0387
-7	-.7807	.1791	.1302	-.0967	.0230	-7	-.8526	.2377	.1965	-.1030	.0277
-5	-.6592	.1440	.1358	-.0819	.0172	-5	-.6816	.1890	.1619	-.0827	.0218
-3	-.5421	.1236	.1388	-.0684	.0140	-3	-.5255	.1621	.1539	-.0643	.0177
-2	-.4879	.1173	.1439	-.0615	.0125	-2	-.4585	.1524	.1553	-.0560	.0160
-1	-.4424	.1119	.1471	-.0556	.0112	-1	-.4040	.1462	.1633	-.0496	.0146
0	-.3860	.1067	.1459	-.0490	.0098	0	-.3445	.1377	.1632	-.0429	.0137
1	-.3361	.1013	.1472	-.0434	.0091	1	-.2850	.1341	.1649	-.0357	.0132
2	-.2711	.0961	.1479	-.0362	.0085	2	-.2156	.1231	.1573	-.0282	.0128
3	-.2060	.0906	.1417	-.0283	.0077	3	-.1388	.1231	.1616	-.0203	.0124
5	-.0867	.0896	.1380	-.0141	.0073	5	.0124	.1219	.1501	-.0038	.0126
7	.0542	.0939	.1320	.0023	.0074	7	.1735	.1341	.1310	.0158	.0142
10	.2819	.1334	.0957	.0309	.0123	10	.4585	.1767	.0713	.0500	.0216
15	.6289	.2537	-.10123	.0750	.0298	15	.8080	.2889	-.0117	.0955	.0398
20	.8024	.3446	-.1011	.0984	.0422	20	.9989	.4023	-.1388	.1215	.0539
25	.7915	.4181	-.1126	.0974	.0501	25	1.0113	.5120	-.1654	.1245	.0648
M = 0.80						M = 1.00					
-10	-1.0307	.2732	.1680	-.1260	.0330	-10	-1.0075	.3206	.2341	-.1219	.0362
-7	-.8098	.1970	.1500	-.0983	.0229	-7	-.8297	.2413	.2051	-.0993	.0269
-5	-.6714	.1593	.1504	-.0809	.0178	-5	-.6993	.1962	.1867	-.0841	.0212
-3	-.5448	.1340	.1549	-.0661	.0139	-3	-.5500	.1632	.1706	-.0662	.0171
-2	-.4859	.1281	.1591	-.0599	.0124	-2	-.4670	.1516	.1606	-.0568	.0153
-1	-.4270	.1194	.1602	-.0527	.0113	-1	-.4030	.1422	.1685	-.0496	.0138
0	-.3681	.1129	.1633	-.0456	.0104	0	-.3485	.1341	.1674	-.0432	.0129
1	-.3180	.1129	.1612	-.0398	.0096	1	-.2821	.1282	.1666	-.0356	.0121
2	-.2503	.1007	.1593	-.0322	.0090	2	-.2134	.1224	.1672	-.0277	.0114
3	-.1796	.0941	.1597	-.0241	.0083	3	-.1399	.1224	.1660	-.0201	.0115
5	-.0560	.0928	.1614	-.0103	.0081	5	.0237	.1259	.1487	-.0025	.0127
7	.0883	.1014	.1492	.0072	.0095	7	.2615	.1422	.1227	.0194	.0157
10	.3534	.1412	.0846	.0393	.0159	10	.4860	.1866	.0525	.0536	.0240
15	.6655	.2427	-.0319	.0804	.0318	15	.8415	.3031	-.0295	.0985	.0415
20	.8245	.3345	-.1042	.1010	.0433	20	1.0430	.4373	-.1087	.1277	.0587
25	.8275	.4345	-.1174	.1019	.0533						
M = 0.85						M = 1.05					
-10	-1.0488	.2919	.1851	-.1277	.0337	-10	-.9524	.3070	.2314	-.1150	.0337
-7	-.8142	.2035	.1548	-.0984	.0237	-7	-.7553	.2268	.2032	-.0954	.0246
-5	-.6652	.1628	.1482	-.0808	.0181	-5	-.6810	.1875	.1941	-.0809	.0198
-3	-.5382	.1358	.1534	-.0649	.0142	-3	-.5516	.1680	.1836	-.0651	.0157
-2	-.4802	.1289	.1592	-.0586	.0124	-2	-.4744	.1429	.1809	-.0568	.0142
-1	-.4250	.1221	.1602	-.0515	.0118	-1	-.4086	.1351	.1796	-.0499	.0130
0	-.3588	.1154	.1603	-.0440	.0102	0	-.3405	.1284	.1777	-.0420	.0119
1	-.3036	.1072	.1632	-.0381	.0096	1	-.2837	.1228	.1756	-.0355	.0109
2	-.2346	.1018	.1588	-.0301	.0088	2	-.2111	.1194	.1741	-.0272	.0104
3	-.1656	.0951	.1584	-.0222	.0084	3	-.1248	.1194	.1692	-.0186	.0104
5	-.0276	.0951	.1593	-.0075	.0088	5	.0499	.1284	.1429	.0024	.0124
7	.1245	.1058	.1461	.0105	.0106	7	.2270	.1452	.1056	.0224	.0153
10	.3698	.1426	.1012	.0398	.0174	10	.4767	.1842	.0472	.0527	.0223
15	.7148	.2512	-.0401	.0854	.0343	15	.8240	.3126	-.0372	.0974	.0394
20	.8749	.3489	-.1133	.1055	.0467	20	1.0782	.4622	-.1031	.1322	.0546
25	.8725	.4507	-.1269	.1076	.0570						
M = 0.90						M = 1.10					
-10	-1.0653	.3002	.2070	-.1309	.0374	-10	-.9285	.2848	.2274	-.1110	.0300
-7	-.8184	.2108	.1610	-.1001	.0264	-7	-.7755	.2149	.2035	-.0925	.0222
-5	-.6625	.1725	.1509	-.0808	.0210	-5	-.6554	.1773	.1928	-.0775	.0176
-3	-.5196	.1495	.1354	-.0642	.0166	-3	-.5243	.1524	.1886	-.0626	.0144
-2	-.4677	.1406	.1558	-.0572	.0153	-2	-.4631	.1344	.1803	-.0553	.0129
-1	-.4053	.1290	.1576	-.0505	.0136	-1	-.4042	.1289	.1816	-.0484	.0116
0	-.3482	.1213	.1589	-.0434	.0125	0	-.3277	.1182	.1771	-.0404	.0105
1	-.2988	.1150	.1622	-.0374	.0119	1	-.2622	.1128	.1738	-.0331	.0100
2	-.2157	.1086	.1554	-.0284	.0110	2	-.1638	.1128	.1668	-.0232	.0097
3	-.1533	.1022	.1591	-.0217	.0106	3	-.0961	.1128	.1614	-.0152	.0097
5	-.0104	.1009	.1531	-.0059	.0100	5	.0612	.1235	.1421	.0036	.0100
7	.1429	.1150	.1370	.0126	.0113	7	.2250	.1451	.1028	.0232	.0124
10	.4027	.1598	.0915	.0434	.0185	10	.4631	.1815	.0442	.0514	.0184
15	.7405	.2555	-.0480	.0891	.0346	15	.7865	.3115	-.0349	.0945	.0351
20	.9094	.3641	-.1226	.1108	.0478	20	1.0377	.4835	-.1008	.1276	.0576
25	.9224	.4664	-.1434	.1127	.0582						

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

 $\frac{t}{c} = 0.06$ $\frac{x}{c} = \text{NONE}$

α , deg	C_L	C_D	C_M	C_L	C_D	α , deg	C_L	C_D	C_M	C_L	C_D
M = 0.60						M = 0.95					
-10	-.4711	.0359	.0274	-.0524	.0010	-10	-.5169	.1101	.0389	-.0406	.0043
-7	-.2944	.0084	-.0310	-.0361	.0007	-7	-.3569	.0631	.0022	-.0420	.0004
-5	-.1767	.0000	-.0197	-.0265	.0000	-5	-.2609	.0474	.0000	-.0291	-.0015
-3	-.0841	.0000	-.0408	-.0170	-.0007	-3	-.1600	.0394	-.0050	-.0175	-.0019
-2	-.0449	.0000	-.0372	-.0122	.0007	-2	-.1088	.0394	.0022	-.0120	-.0020
-1	.0000	.0028	-.0310	-.0068	.0010	-1	-.0688	.0394	.0120	-.0070	-.0022
0	.0421	.0140	-.0310	-.0013	.0007	0	-.0176	.0394	.0070	-.0016	-.0020
1	.0897	.0140	-.0123	.0020	.0000	1	.0352	.0426	.0070	.0047	-.0024
2	.1262	.0000	-.0310	.0068	.0000	2	.0864	.0442	.0248	.0117	-.0028
3	.1598	.0219	-.0249	.0116	.0003	3	.1360	.0503	.0233	.0159	-.0022
5	.2496	.0415	-.0186	.0211	.0003	5	.2273	.0663	.0191	.0264	-.0020
7	.3365	.0550	-.0186	.0313	.0016	7	.3201	.0864	.0191	.0404	.0000
10	.4683	.1105	-.0197	.0497	.0085	10	.4721	.1386	-.0142	.0583	.0050
15	.6085	.2344	-.0682	.0714	.0209	15	.7234	.2487	-.0744	.0893	.0247
20	.6786	.3449	-.1167	.0783	.0326	20	.8866	.3809	-.1699	.1018	.0419
25	.6393	.4245	-.1216	.0762	.0388	25	.9602	.5086	-.2194	.1088	.0577
M = 0.80						M = 1.00					
-10	-.4994	.0543	.0117	-.0581	.0044	-10	-.5765	.1282	.0753	-.0666	.0039
-7	-.3285	.0300	.0664	-.0401	.0011	-7	-.4032	.0828	.0305	-.0458	.0000
-5	-.2146	.0186	-.0252	-.0276	.0011	-5	-.2882	.0604	.0183	-.0312	-.0029
-3	-.1177	.0148	-.0202	-.0171	.0005	-3	-.1856	.0512	.0081	-.0182	-.0036
-2	-.0722	.0186	-.0043	-.0120	.0000	-2	-.1119	.0454	.0067	-.0115	-.0041
-1	-.0266	.0167	-.0126	-.0069	-.0002	-1	-.0552	.0454	.0123	-.0048	-.0039
0	.0133	.0186	-.0084	-.0014	.0000	0	.0061	.0454	-.0007	.0015	-.0037
1	.0508	.0281	.0000	.0046	.0006	1	.0721	.0454	.0000	.0086	-.0043
2	.1082	.0281	.0043	.0092	-.0013	2	.1257	.0527	.0000	.0153	-.0036
3	.1462	.0372	.0117	.0143	-.0006	3	.1840	.0558	-.0067	.0216	-.0032
5	.2486	.0467	.0084	.0249	-.0006	5	.2944	.0754	-.0134	.0344	-.0021
7	.3513	.0672	.0043	.0373	.0009	7	.4094	.0966	-.0305	.0480	.0013
10	.4580	.1215	.0000	.0558	.0051	10	.5857	.1555	-.0678	.0688	.0101
15	.5963	.2374	-.0757	.0719	.0210	15	.8739	.2790	-.1557	.1016	.0321
20	.6779	.3361	-.1176	.0811	.0329	20	1.0794	.4449	-.1899	.1265	.0565
25	.6969	.4204	-.1445	.0820	.0398	25	1.1407	.6032	-.2646	.1321	.0749
M = 0.85						M = 1.05					
-10	-.5047	.0685	.0047	-.0597	.0025	-10	-.5682	.1231	.0729	-.0643	.0046
-7	-.3620	.0385	-.0118	-.0403	-.0002	-7	-.4019	.0795	.0378	-.0443	.0007
-5	-.2425	.0264	-.0197	-.0290	-.0006	-5	-.2738	.0580	.0195	-.0343	-.0029
-3	-.1302	.0175	-.0197	-.0173	-.0015	-3	-.1590	.0492	.0124	-.0179	-.0039
-2	-.0892	.0175	-.0078	-.0121	-.0010	-2	-.1119	.0456	.0124	-.0107	-.0034
-1	-.0464	.0175	-.0078	-.0073	-.0006	-1	-.0484	.0506	.0065	-.0221	-.0034
0	.0000	.0246	-.0056	.0035	-.0010	0	.0103	.0456	-.0033	.0018	-.0032
1	.0464	.0264	.0000	.0043	-.0015	1	-.0751	.0477	-.0065	.0089	-.0034
2	.0874	.0317	.0118	.0100	-.0010	2	.1281	.0551	-.0039	.0150	-.0024
3	.1373	.0350	.0143	.0152	-.0010	3	.1825	.0580	-.0131	.0204	-.0024
5	.2497	.0492	.0134	.0268	-.0010	5	.3003	.0795	-.0260	.0339	-.0015
7	.3602	.0770	.0056	.0398	.0010	7	.4151	.1131	-.0437	.0468	.0024
10	.4940	.1316	-.0103	.0580	.0058	10	.5771	.1666	-.0638	.0675	.0125
15	.6099	.2368	-.0789	.0736	.0193	15	.8656	.3086	-.1459	.0982	.0305
20	.7080	.3420	-.1334	.0844	.0321	20	1.0776	.4449	-.2019	.1251	.0589
25	.7401	.4298	-.1499	.0870	.0442	25	1.1836	.6342	-.2559	.1386	.0743
M = 0.90						M = 1.10					
-10	-.5062	.0827	.0276	-.0588	.0035	-10	-.5521	.1155	.0720	-.0618	.0079
-7	-.3666	.0464	-.0097	-.0429	.0012	-7	-.3865	.0725	.0326	-.0430	.0038
-5	-.2489	.0299	-.0126	-.0294	-.0010	-5	-.2704	.0558	.0156	-.0299	.0008
-3	-.1396	.0249	-.0164	-.0176	-.0010	-3	-.1529	.0459	.0062	-.0168	-.0005
-2	-.1144	.0249	-.0074	-.0122	-.0012	-2	-.1076	.0445	.0113	-.0096	-.0008
-1	-.0555	.0232	-.0052	-.0073	-.0010	-1	-.0467	.0445	-.0007	-.0045	-.0008
0	.0084	.0249	.0030	-.0004	-.0010	0	.0099	.0459	-.0032	.0014	-.0010
1	.0505	.0313	.0038	.0061	-.0016	1	.0708	.0487	-.0094	.0082	-.0010
2	.0875	.0330	.0171	.0106	-.0016	2	.1161	.0529	-.0094	.0157	-.0022
3	.1379	.0380	.0186	.0155	-.0016	3	.1755	.0668	-.0156	.0196	-.0018
5	.2506	.0545	.0291	.0290	-.0014	5	.2930	.0807	-.0300	.0320	.0005
7	.3498	.0794	.0000	.0404	-.0002	7	.4134	.1087	-.0501	.0440	.0044
10	.4827	.1339	-.0149	.0575	.0039	10	.5677	.1670	-.0773	.0618	.0132
15	.6592	.2449	-.0782	.0812	.0211	15	.8352	.3092	-.1421	.0924	.0309
20	.7736	.3589	-.1526	.0910	.0352	20	1.0306	.4776	-.1973	.1175	.0528
25	.8190	.4547	-.1823	.0951	.0483	25	1.1524	.6543	-.2549	.1333	.0569

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

 $\frac{t}{c} = 0.06$ $\frac{x}{c} = 0.40$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.4178	.1211	-.0496	-.0477	.0072	-10	-.5153	.2205	-.0538	-.0602	.0126
-7	-.3337	.0965	-.1178	-.0429	.0081	-7	-.4961	.2045	-.0389	-.0567	.0108
-5	-.2636	.0880	-.1117	-.0347	.0059	-5	-.4449	.1780	-.0425	-.0509	.0084
-3	-.1907	.0880	-.1117	-.0259	.0056	-3	-.3521	.1575	-.0495	-.0392	.0063
-2	-.1571	.0965	-.0992	-.0225	.0049	-2	-.3009	.1543	-.0531	-.0330	.0058
-1	-.1234	.0965	-.1054	-.0191	.0052	-1	-.2529	.1527	-.0495	-.0256	.0052
0	-.0897	.0965	-.0992	-.0156	.0056	0	-.2048	.1495	-.0566	-.0213	.0046
1	-.0589	.1021	-.1005	-.0109	.0059	1	-.1408	.1527	-.0638	-.0155	.0046
2	-.0308	.1049	-.0992	-.0075	.0052	2	-.0928	.1607	-.0672	-.0074	.0061
3	-.0112	.1105	-.0882	-.0041	.0056	3	-.0512	.1543	-.0602	-.0043	.0069
5	.0477	.1239	-.0882	.0034	.0056	5	.0160	.1652	-.0658	.0034	.0083
7	.1150	.1239	-.0868	.0102	.0036	7	.1088	.1700	-.0672	.0151	.0065
10	.2804	.1514	-.0868	.0286	.0049	10	.2881	.1812	-.0672	.0350	.0082
15	.5216	.2484	-.0868	.0592	.0147	15	.6210	.2519	-.1063	.0715	.0218
20	.6225	.3421	-.0992	.0729	.0235	20	.8034	.3620	-.1486	.0944	.0382
25	.6506	.4273	-.1427	.0755	.0313	25	.8962	.4801	-.1982	.1037	.0521
M = 0.80						M = 1.00					
-10	-.5106	.1625	-.0756	-.0631	.0117	-10	-.5027	.2486	-.0373	-.0573	.0150
-7	-.4632	.1401	-.0831	-.0567	.0099	-7	-.3985	.2155	-.0509	-.0450	.0116
-5	-.3873	.1215	-.0866	-.0475	.0073	-5	-.3341	.1916	-.0712	-.0372	.0093
-3	-.3018	.1120	-.0797	-.0364	.0055	-3	-.2238	.1768	-.0847	-.0236	.0086
-2	-.2790	.1139	-.0478	-.0290	.0049	-2	-.1901	.1735	-.0882	-.0190	.0080
-1	-.2316	.1120	-.0714	-.0258	.0044	-1	-.1349	.1735	-.0970	-.0130	.0084
0	-.1974	.1139	-.0671	-.0212	.0042	0	-.0736	.1735	-.0983	-.0052	.0091
1	-.1500	.1158	-.0706	-.0166	.0040	1	-.0337	.1735	-.0983	-.0004	.0091
2	-.1177	.1215	-.0630	-.0134	.0042	2	.0031	.1809	-.0983	.0052	.0093
3	-.0816	.1215	-.0630	-.0092	.0044	3	.0337	.1824	-.1018	.0093	.0094
5	-.0076	.1215	-.0614	-.0005	.0051	5	.1410	.2035	-.1085	.0201	.0101
7	.0778	.1306	-.0588	.0092	.0044	7	.2054	.2020	-.1051	.0275	.0120
10	.2658	.1587	-.0545	.0309	.0044	10	.3862	.2216	-.1037	.0465	.0146
15	.5334	.2426	-.0671	.0622	.0155	15	.6897	.2940	-.1424	.0785	.0273
20	.6473	.3269	-.1168	.0779	.0256	20	.9104	.4221	-.1932	.1053	.0449
25	.6967	.4032	-.0840	.0816	.0353	25	1.0606	.5803	-.2474	.1235	.0665
M = 0.85						M = 1.05					
-10	-.5330	.1754	-.0710	-.0649	.0130	-10	-.4887	.2347	-.0293	-.0554	.0156
-7	-.4974	.1544	-.0710	-.0601	.0097	-7	-.3798	.2029	-.0618	-.0422	.0123
-5	-.4207	.1316	-.0726	-.0511	.0068	-5	-.2915	.1811	-.0814	-.0318	.0108
-3	-.3458	.1226	-.0695	-.0403	.0048	-3	-.2032	.1737	-.0932	-.0214	.0103
-2	-.2995	.1226	-.0670	-.0346	.0043	-2	-.1590	.1708	-.0932	-.0157	.0103
-1	-.2567	.1209	-.0630	-.0286	.0041	-1	-.1060	.1678	-.1009	-.0097	.0108
0	-.2139	.1226	-.0615	-.0242	.0041	0	-.0559	.1737	-.1042	-.0032	.0103
1	-.1765	.1226	-.0630	-.0190	.0041	1	-.0118	.1737	-.1042	.0018	.0111
2	-.1426	.1226	-.0552	-.0156	.0046	2	.0294	.1811	-.1022	.0075	.0115
3	-.1016	.1244	-.0592	-.0108	.0048	3	.0618	.1881	-.1074	.0114	.0120
5	-.0107	.1333	-.0592	-.0004	.0050	5	.1502	.2014	-.1140	.0211	.0128
7	.0731	.1401	-.0592	.0082	.0048	7	.2385	.2129	-.1146	.0300	.0147
10	.2692	.1629	-.0583	.0312	.0056	10	.4004	.2361	-.1061	.0468	.0181
15	.5544	.2457	-.0789	.0645	.0172	15	.6742	.3112	-.1433	.0776	.0318
20	.6846	.3330	-.1231	.0814	.0288	20	.9127	.4416	-.1993	.1043	.0507
25	.7434	.4207	-.1537	.0865	.0394	25	1.0776	.6083	-.2572	.1247	.0724
M = 0.90						M = 1.10					
-10	-.5279	.2017	-.0573	-.0632	.0117	-10	-.4670	.2018	-.0332	-.0522	.0176
-7	-.5279	.1752	-.0483	-.0620	.0104	-7	-.3651	.1741	-.0594	-.0399	.0153
-5	-.4690	.1570	-.0483	-.0551	.0078	-5	-.2802	.1602	-.0814	-.0306	.0127
-3	-.3766	.1405	-.0506	-.0445	.0059	-3	-.1840	.1503	-.0940	-.0199	.0115
-2	-.3379	.1405	-.0409	-.0388	.0055	-2	-.1472	.1460	-.0920	-.0148	.0125
-1	-.3009	.1372	-.0409	-.0335	.0047	-1	-.1019	.1460	-.0958	-.0096	.0137
0	-.2522	.1355	-.0394	-.0277	.0045	0	-.0538	.1489	-.1033	-.0041	.0138
1	-.2135	.1355	-.0409	-.0233	.0041	1	-.0085	.1531	-.1102	.0014	.0142
2	-.1832	.1355	-.0335	-.0184	.0041	2	.0311	.1602	-.1033	.0069	.0145
3	-.1345	.1207	-.0356	-.0143	.0043	3	.0651	.1670	-.1064	.0106	.0143
5	-.0252	.1405	-.0491	-.0021	.0041	5	.1443	.1794	-.1126	.0192	.0153
7	.0672	.1520	-.0573	.0094	.0051	7	.2434	.1950	-.1153	.0295	.0168
10	.2656	.1705	-.0565	.0359	.0068	10	.3878	.2213	-.1064	.0453	.0202
15	.5733	.2481	-.0893	.0678	.0190	15	.6595	.2992	-.1408	.0735	.0324
20	.7414	.3473	-.1302	.0877	.0324	20	.8774	.4384	-.1878	.0993	.0502
25	.8120	.4499	-.1748	.0942	.0440	25	1.0444	.6153	-.2524	.1188	.0727

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

 $\frac{x}{c} = 0.06$ $\frac{x}{c} = 0.60$

α , deg	C_L	C_D	C_M	C_L	C_D	α , deg	C_L	C_D	C_M	C_L	C_D
M = 0.60						M = 0.95					
-10	-.5917	.1352	-.0123	-.0674	.0101	-10	-.7250	.2596	.0219	-.0816	.0188
-7	-.4851	.1239	-.0446	-.0545	.0085	-7	-.6242	.2157	.0213	-.0691	.0141
-5	-.4122	.1105	-.0323	-.0469	.0075	-5	-.5281	.1812	.0070	-.0583	.0114
-3	-.3281	.0993	-.0435	-.0388	.0065	-3	-.4081	.1607	-.0106	-.0451	.0089
-2	-.2944	.0993	-.0435	-.0340	.0052	-2	-.3441	.1591	-.0106	-.0365	.0080
-1	-.2412	.0965	-.0422	-.0286	.0045	-1	-.2961	.1575	-.0177	-.0307	.0076
0	-.2047	.0965	-.0372	-.0238	.0043	0	-.2561	.1495	-.0070	-.0260	.0071
1	-.1654	.0993	-.0249	-.0211	.0062	1	-.2081	.1495	-.0106	-.0206	.0067
2	-.1206	.0993	-.0236	-.0177	.0065	2	-.1760	.1447	.0000	-.0159	.0067
3	-.0841	.1021	-.0310	-.0136	.0075	3	-.1120	.1418	-.0036	-.0089	.0075
5	.0028	.1105	-.0310	-.0013	.0075	5	.0000	.1463	-.0106	.0039	.0071
7	.0925	.1049	-.0249	.0089	.0068	7	.1280	.1495	-.0142	.0182	.0080
10	.2776	.1492	-.0372	.0293	.0075	10	.3521	.1856	-.0460	.0420	.0108
15	.5328	.2591	-.0745	.0619	.0176	15	.6626	.2676	-.0885	.0769	.0294
20	.6590	.3612	-.1117	.0796	.0280	20	.8162	.6690	-.1416	.0955	.0448
25	.6702	.4414	-.1427	.0796	.0356	25	.9346	.4833	-.2018	.1068	.0569
M = 0.80						M = 1.00					
-10	-.6929	.1925	-.0050	-.0797	.0157	-10	-.6409	.2790	.0040	-.0730	.0196
-7	-.5695	.1549	-.0295	-.0654	.0113	-7	-.5274	.2263	-.0169	-.0592	.0153
-5	-.4860	.1344	-.0295	-.0553	.0086	-5	-.4293	.1959	-.0238	-.0458	.0127
-3	-.3948	.1215	-.0169	-.0442	.0064	-3	-.3220	.1763	-.0475	-.0346	.0109
-2	-.3607	.1177	-.0026	-.0396	.0057	-2	-.2637	.1705	-.0440	-.0275	.0103
-1	-.3151	.1120	-.0109	-.0350	.0057	-1	-.2208	.1736	-.0509	-.0223	.0100
0	-.2754	.1120	-.0084	-.0295	.0057	0	-.1656	.1659	-.0509	-.0156	.0100
1	-.2278	.1082	-.0084	-.0253	.0064	1	-.1227	.1659	-.0542	-.0112	.0103
2	-.1822	.1063	.0000	-.0194	.0068	2	-.0767	.1659	-.0440	-.0048	.0109
3	-.1424	.1101	-.0033	-.0147	.0068	3	-.0153	.1613	-.0475	.0011	.0109
5	-.0323	.1120	.0043	-.0041	.0064	5	.0767	.1659	-.0509	.0123	.0109
7	.0664	.1120	-.0043	.0078	.0062	7	.1993	.1736	-.0536	.0253	.0119
10	.2847	.1477	-.0252	.0318	.0066	10	.3894	.1917	-.0644	.0450	.0127
15	.5448	.2426	-.0630	.0650	.0219	15	.7053	.2941	-.1153	.0804	.0296
20	.6739	.3288	-.1049	.0811	.0327	20	.9506	.4299	-.1729	.1090	.0528
25	.7214	.4203	-.1428	.0857	.0437	25	1.0579	.5731	-.2340	.1250	.0715
M = 0.85						M = 1.05					
-10	-.7220	.2068	.0040	-.0831	.0174	-10	-.6212	.2535	.0033	-.0700	.0216
-7	-.5972	.1665	-.0221	-.0701	.0141	-7	-.5075	.2099	-.0223	-.0548	.0175
-5	-.4995	.1401	-.0197	-.0575	.0104	-5	-.4093	.1811	-.0391	-.0454	.0147
-3	-.4100	.1298	-.0158	-.0472	.0083	-3	-.3091	.1666	-.0502	-.0336	.0170
-2	-.3725	.1226	.0118	-.0428	.0075	-2	-.2503	.1593	-.0489	-.0264	.0127
-1	-.3262	.1226	.0040	-.0363	.0060	-1	-.2061	.1593	-.0469	-.0207	.0122
0	-.2924	.1177	.0000	-.0316	.0058	0	-.1472	.1563	-.0579	-.0147	.0123
1	-.2318	.1141	-.0040	-.0242	.0054	1	-.1030	.1549	-.0554	-.0097	.0125
2	-.1961	.1141	.0000	-.0195	.0056	2	-.0618	.1534	-.0554	-.0043	.0135
3	-.1515	.1141	.0078	-.0147	.0056	3	-.0029	.1563	-.0586	.0014	.0139
5	-.0446	.1141	.0000	-.0035	.0058	5	.1030	.1608	-.0515	.0136	.0139
7	.0660	.1244	.0000	.0099	.0064	7	.2208	.1693	-.0554	.0261	.0135
10	.2852	.1579	-.0181	.0333	.0075	10	.4034	.2029	-.0716	.0457	.0156
15	.5649	.2506	-.0679	.0692	.0199	15	.6919	.3056	-.1212	.0779	.0318
20	.7043	.3419	-.1215	.0848	.0328	20	.9333	.4516	-.1823	.1058	.0510
25	.7666	.4332	-.1569	.0909	.0446	25	1.0923	.6083	-.2443	.1265	.0729
M = 0.90						M = 1.10					
-10	-.7481	.2397	.0149	-.0837	.0172	-10	-.5918	.2296	.0000	-.0670	.0232
-7	-.6304	.1903	-.0038	-.0718	.0131	-7	-.4813	.1880	-.0250	-.0536	.0181
-5	-.5212	.1621	-.0112	-.0592	.0100	-5	-.3907	.1670	-.0326	-.0436	.0151
-3	-.4371	.1490	.0104	-.0481	.0076	-3	-.2831	.1475	-.0470	-.0316	.0145
-2	-.3951	.1422	.0112	-.0428	.0070	-2	-.2520	.1461	-.0438	-.0261	.0140
-1	-.3480	.1355	.0074	-.0376	.0067	-1	-.1954	.1393	-.0532	-.0210	.0137
0	-.3093	.1321	.0112	-.0318	.0061	0	-.1416	.1393	-.0595	-.0155	.0142
1	-.2606	.1321	.0126	-.0261	.0059	1	-.0934	.1393	-.0589	-.0100	.0142
2	-.2169	.1274	.0149	-.0200	.0061	2	-.0680	.1393	-.0470	-.0048	.0145
3	-.1513	.1241	.0074	-.0147	.0055	3	-.0028	.1393	-.0501	.0007	.0150
5	-.0336	.1274	.0000	-.0016	.0061	5	.0991	.1461	-.0520	.0127	.0144
7	.0841	.1405	-.0052	.0130	.0068	7	.2124	.1603	-.0564	.0251	.0150
10	.2942	.1654	-.0186	.0355	.0080	10	.3964	.1951	-.0720	.0436	.0189
15	.5968	.2481	-.0706	.0710	.0254	15	.6795	.2993	-.1190	.0732	.0339
20	.7448	.3473	-.1338	.0877	.0404	20	.9032	.4524	-.1753	.1003	.0524
25	.8238	.4499	-.1748	.0955	.0526	25	1.0618	.6223	-.2443	.1203	.0728

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL.- Continued

 $\frac{t}{c} = 0.06$ $\frac{x_a}{c} = 0.80$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.7599	.1929	.0832	-.0823	.0079	-10	-.8703	.2784	.1309	-.0944	.0182
-7	-.6085	.1514	.0372	-.0688	.0072	-7	-.7199	.2125	.1026	-.0788	.0141
-5	-.5047	.1239	.0372	-.0592	.0056	-5	-.5823	.1763	.0778	-.0637	.0114
-3	-.4066	.1105	.0372	-.0490	.0043	-3	-.4640	.1574	.0658	-.0493	.0095
-2	-.3645	.1105	.0372	-.0442	.0033	-2	-.4000	.1494	.0708	-.0431	.0089
-1	-.3253	.1021	.0559	-.0395	.0029	-1	-.3552	.1417	.0708	-.0380	.0080
0	-.2804	.0965	.0422	-.0354	.0026	0	-.3040	.1337	.0708	-.0322	.0073
1	-.2384	.0965	.0372	-.0306	.0026	1	-.2528	.1257	.0680	-.0268	.0073
2	-.1963	.0880	.0397	-.0265	.0029	2	-.2048	.1181	.0680	-.0210	.0071
3	-.1545	.0880	.0397	-.0218	.0026	3	-.1544	.1101	.0637	-.0148	.0069
5	-.0449	.0965	.0372	-.0095	.0033	5	.0000	.1133	.0566	.0008	.0071
7	.0561	.0937	.0323	.0020	.0029	7	.1312	.1213	.0389	.0136	.0067
10	.2384	.1352	.0063	.0224	.0020	10	.3712	.1542	.0000	.0404	.0085
15	.5300	.2456	-.0559	.0579	.0088	15	.7039	.2595	-.0744	.0792	.0264
20	.6730	.3449	-.1328	.0783	.0192	20	.8543	.3619	-.1628	.0990	.0411
25	.7010	.4139	-.1514	.0803	.0261	25	.9439	.4800	-.2053	.1087	.0567
M = 0.80						M = 1.00					
-10	-.8277	.2335	.0882	-.0908	.0124	-10	-.8215	.2940	.1200	-.0885	.0228
-7	-.6739	.1773	.0714	-.0756	.0093	-7	-.6744	.2262	.0949	-.0722	.0171
-5	-.5600	.1477	.0630	-.0631	.0071	-5	-.5579	.1916	.0780	-.0603	.0146
-3	-.4556	.1268	.0671	-.0516	.0053	-3	-.4445	.1658	.0644	-.0469	.0125
-2	-.4157	.1215	.0756	-.0465	.0042	-2	-.3832	.1582	.0611	-.0394	.0109
-1	-.3702	.1120	.0706	-.0415	.0035	-1	-.3127	.1478	.0542	-.0331	.0105
0	-.3189	.1082	.0714	-.0364	.0031	0	-.2636	.1432	.0542	-.0279	.0103
1	-.2715	.1025	.0882	-.0313	.0029	1	-.2023	.1358	.0509	-.0212	.0100
2	-.2278	.0972	.0756	-.0263	.0029	2	-.1533	.1281	.0475	-.0164	.0100
3	-.1708	.0934	.0740	-.0207	.0040	3	-.0920	.1281	.0509	-.0101	.0098
5	.0494	.0915	.0688	-.0074	.0040	5	.0368	.1312	.0373	.0052	.0087
7	.1328	.2050	.0630	.0000	.0000	7	.1686	.1358	.0238	.0182	.0086
10	.2828	.1363	.0336	.0276	.0035	10	.4016	.1735	-.0169	.0439	.0109
15	.5657	.2335	-.0545	.0645	.0152	15	.7357	.2863	-.1010	.0818	.0292
20	.7100	.3174	-.1301	.0820	.0269	20	.9963	.4371	-.1763	.1135	.0521
25	.7498	.4051	-.1554	.0866	.0373	25	1.1035	.5729	-.2474	.1276	.0704
M = 0.85						M = 1.05					
-10	-.8557	.2403	.0963	-.0939	.0168	-10	-.7950	.2824	.1172	-.0836	.0228
-7	-.6846	.1840	.0710	-.0762	.0130	-7	-.6683	.2244	.0977	-.0693	.0181
-5	-.5990	.1579	.0710	-.0666	.0112	-5	-.5388	.1840	.0782	-.0557	.0151
-3	-.4813	.1387	.0789	-.0541	.0085	-3	-.4416	.1593	.0684	-.0454	.0130
-2	-.4314	.1280	.0820	-.0480	.0075	-2	-.3828	.1519	.0651	-.0390	.0118
-1	-.3744	.1191	.0789	-.0420	.0066	-1	-.3239	.1449	.0586	-.0329	.0118
0	-.3351	.1141	.0789	-.0363	.0058	0	-.2650	.1375	.0554	-.0271	.0120
1	-.2852	.1070	.0749	-.0312	.0054	1	-.2061	.1304	.0521	-.0211	.0120
2	-.2318	.1016	.0820	-.0255	.0052	2	-.1560	.1290	.0533	-.0154	.0120
3	-.1783	.0963	.0749	-.0199	.0048	3	-.0883	.1245	.0489	-.0086	.0110
5	-.0499	.0963	.0710	-.0061	.0043	5	.0471	.1304	.0358	.0064	.0113
7	.0677	.0998	.0655	.0056	.0033	7	.1825	.1375	.0228	.0204	.0101
10	.2852	.1351	.0449	.0290	.0039	10	.3945	.1737	-.0228	.0422	.0118
15	.5419	.2278	-.0552	.0662	.0180	15	.7096	.2853	-.1009	.0783	.0298
20	.7309	.3155	-.1231	.0835	.0305	20	.9716	.4416	-.1784	.1093	.0502
25	.7844	.4172	-.1656	.0904	.0425	25	1.1355	.6083	-.2443	.1301	.0734
M = 0.90						M = 1.10					
-10	-.8745	.2698	.1117	-.0955	.0164	-10	-.7642	.2604	.1096	-.0804	.0237
-7	-.7097	.1984	.0856	-.0784	.0119	-7	-.6368	.2046	.1002	-.0354	.0191
-5	-.6054	.1672	.0782	-.0661	.0096	-5	-.5264	.1769	.0782	-.0553	.0153
-3	-.4776	.1440	.0744	-.0522	.0076	-3	-.4246	.1503	.0688	-.0436	.0137
-2	-.4238	.1339	.0818	-.0461	.0065	-2	-.3679	.1407	.0688	-.0374	.0132
-1	-.3801	.1258	.0782	-.0408	.0057	-1	-.3142	.1322	.0626	-.0323	.0128
0	-.3296	.1241	.0818	-.0351	.0053	0	-.2661	.1279	.0626	-.0264	.0125
1	-.2825	.1157	.0782	-.0298	.0051	1	-.2038	.1211	.0564	-.0206	.0122
2	-.2321	.1076	.0818	-.0245	.0051	2	-.1500	.1183	.0564	-.0148	.0130
3	-.1682	.0992	.0744	-.0180	.0053	3	-.0708	.1169	.0470	-.0065	.0125
5	-.0437	.0992	.0706	-.0049	.0057	5	.0708	.1226	.0344	.0079	.0117
7	.0975	.1123	.0558	.0098	.0049	7	.1840	.1322	.0356	.0192	.0115
10	.3195	.1456	.0223	.0339	.0061	10	.3821	.1741	-.0814	.0402	.0150
15	.6424	.2365	-.0521	.0727	.0227	15	.6934	.2895	-.0983	.0735	.0309
20	.7736	.3310	-.1450	.0890	.0344	20	.9340	.4455	-.1722	.1024	.0520
25	.8442	.4383	-.1785	.0967	.0479	25	1.1038	.6153	-.2348	.1230	.0739

TABLE 2 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL, = Concluded

 $\frac{b}{c} = 0.06$ $\frac{x}{c} = 1.00$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-.8664	.1705	.2287	-.0984	.0224	-10	-1.0169	.2853	.2997	-.1118	.0296
-7	-.7015	.1431	.1793	-.0800	.0172	-7	-.8257	.2149	.2469	-.0894	.0228
-5	-.6009	.1235	.1639	-.0679	.0117	-5	-.6663	.1737	.2080	-.0716	.0194
-3	-.4779	.1101	.1670	-.0570	.0107	-3	-.5228	.1505	.1868	-.0573	.0165
-2	-.4416	.1073	.1719	-.0522	.0101	-2	-.4750	.1441	.1974	-.0507	.0154
-1	-.3857	.1073	.1730	-.0475	.0094	-1	-.4272	.1396	.2010	-.0453	.0144
0	-.3382	.1073	.1608	-.0420	.0091	0	-.3762	.1364	.1940	-.0402	.0143
1	-.2907	.1045	.1558	-.0366	.0088	1	-.3188	.1285	.1868	-.0344	.0135
2	-.2431	.1045	.1608	-.0319	.0084	2	-.2710	.1208	.1868	-.0286	.0121
3	-.1928	.1017	.1545	-.0264	.0075	3	-.1976	.1208	.1798	-.0209	.0109
5	-.0783	.1045	.1324	-.0143	.0075	5	-.0765	.1253	.1728	-.0077	.0107
7	.0224	.0933	.1384	-.0020	.0065	7	.0765	.1317	.1480	.0093	.0098
10	.1845	.1347	.1013	.0190	.0075	10	.3124	.1600	.0847	.0364	.0128
15	.4527	.2554	.0025	.0536	.0169	15	.6408	.2649	-.0106	.0743	.0295
20	.6540	.3683	-.1040	.0800	.0273	20	.8320	.3669	-.1375	.0975	.0450
25	.6540	.4315	-.1335	.0800	.0341	25	.9468	.4890	-.2010	.1107	.0617
M = 0.80						M = 1.00					
-10	-.9214	.2195	.2343	-.1038	.0224	-10	-.9743	.2959	.3006	-.1060	.0307
-7	-.7511	.1729	.2051	-.0826	.0165	-7	-.8215	.2284	.2655	-.0882	.0236
-5	-.6319	.1434	.1925	-.0698	.0130	-5	-.6841	.1909	.2398	-.0738	.0201
-3	-.5222	.1249	.1892	-.0574	.0108	-3	-.5772	.1606	.2195	-.0600	.0165
-2	-.4616	.1211	.1892	-.0537	.0097	-2	-.5100	.1533	.2195	-.0526	.0148
-1	-.4200	.1154	.1916	-.0464	.0095	-1	-.4520	.1457	.2128	-.0463	.0140
0	-.3633	.1135	.1842	-.0413	.0092	0	-.3787	.1368	.1992	-.0404	.0135
1	-.3141	.1059	.1757	-.0363	.0086	1	-.3329	.1307	.1992	-.0345	.0126
2	-.2630	.1059	.1757	-.0308	.0081	2	-.2718	.1261	.1992	-.0278	.0114
3	-.2005	.1022	.1683	-.0248	.0077	3	-.1955	.1231	.1925	-.0215	.0108
5	-.0738	.0969	.1548	-.0110	.0077	5	-.0428	.1307	.1690	-.0045	.0108
7	.0435	.1059	.1465	.0028	.0066	7	.0947	.1307	.1418	.0111	.0100
10	.2270	.1396	.1131	.0252	.0081	10	.3390	.1683	.0676	.0385	.0133
15	.5035	.2512	-.0209	.0602	.0196	15	.6872	.2764	-.0398	.0778	.0325
20	.6887	.3387	-.1155	.0836	.0324	20	.9254	.4190	-.1148	.1067	.0550
25	.7114	.4132	-.1339	.0859	.0414	25	1.0750	.5769	-.2365	.1253	.0753
M = 0.85						M = 1.05					
-10	-.9630	.2360	.2398	-.1082	.0264	-10	-.9354	.2941	.2951	-.1018	.0333
-7	-.7604	.1784	.2004	-.0845	.0196	-7	-.7947	.2264	.2692	-.0843	.0252
-5	-.6361	.1432	.1886	-.0707	.0159	-5	-.6715	.1903	.2400	-.0719	.0210
-3	-.5188	.1258	.1848	-.0578	.0132	-3	-.5396	.1616	.2238	-.0569	.0181
-2	-.4765	.1187	.1886	-.0522	.0124	-2	-.4956	.1542	.2238	-.0513	.0167
-1	-.4229	.1155	.1848	-.0470	.0116	-1	-.4369	.1457	.2141	-.0455	.0155
0	-.3696	.1102	.1808	-.0418	.0109	0	-.3783	.1384	.2141	-.0391	.0147
1	-.3127	.1066	.1730	-.0358	.0099	1	-.3050	.1325	.1946	-.0328	.0142
2	-.2523	.0995	.1753	-.0302	.0095	2	-.2375	.1284	.1881	-.0249	.0133
3	-.1883	.0995	.1690	-.0228	.0089	3	-.1730	.1284	.1849	-.0182	.0124
5	-.0675	.0959	.1572	-.0095	.0081	5	-.0176	.1325	.1525	-.0025	.0142
7	.0465	.1084	.1494	.0039	.0074	7	.1202	.1384	.1233	.0135	.0124
10	.2487	.1624	.1116	.0280	.0112	10	.3440	.2912	.0551	.0391	.0159
15	.5366	.2463	-.0236	.0642	.0219	15	.6627	.2912	-.0357	.0747	.0346
20	.7249	.3354	-.1180	.0871	.0364	20	.9266	.4498	-.1200	.1061	.0564
25	.7569	.4143	-.1336	.0906	.0461	25	1.0879	.6014	-.2010	.1256	.0788
M = 0.90						M = 1.10					
-10	-1.0016	.2670	.2630	-.1114	.0292	-10	-.8999	.2525	.2777	-.0965	.0354
-7	-.7839	.1943	.2089	-.0862	.0216	-7	-.7588	.2011	.2496	-.0801	.0277
-5	-.6499	.1598	.1963	-.0703	.0177	-5	-.6150	.1664	.2309	-.0681	.0243
-3	-.5293	.1400	.1853	-.0569	.0156	-3	-.5247	.1416	.2153	-.0561	.0205
-2	-.4757	.1317	.1904	-.0504	.0138	-2	-.4767	.1346	.2153	-.0500	.0190
-1	-.4154	.1270	.1889	-.0455	.0132	-1	-.4062	.1275	.2059	-.0428	.0174
0	-.3618	.1186	.1853	-.0390	.0117	0	-.3498	.1207	.1997	-.0373	.0171
1	-.2981	.1119	.1778	-.0333	.0113	1	-.2793	.1137	.1872	-.0305	.0164
2	-.2346	.1105	.1816	-.0280	.0103	2	-.2116	.1137	.1778	-.0226	.0153
3	-.1809	.1038	.1704	-.0203	.0093	3	-.1523	.1137	.1653	-.0168	.0143
5	-.0670	.1022	.1652	-.0077	.0088	5	-.0085	.1165	.1404	-.0014	.0151
7	.0569	.1169	.1482	.0065	.0080	7	.1241	.1346	.1123	.0140	.0153
10	.2613	.1514	.1037	.0301	.0103	10	.3357	.1763	.0592	.0363	.0185
15	.5728	.2456	-.0149	.0691	.0247	15	.6403	.2942	-.0375	.0715	.0330
20	.7604	.3427	-.1319	.0898	.0399	20	.8914	.4530	-.1216	.1006	.0550
25	.8241	.4399	-.1667	.0959	.0518	25	1.0607	.6229	-.1997	.1215	.0766

TABLE 3 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL -

 $\frac{t}{c} = 0.04$ $\frac{x_h}{c} = \text{NONE}$

α , deg	C_L	C_D	C_H	C_i	C_n	α , deg	C_L	C_D	C_H	C_i	C_n
M = 0.60						M = 0.95					
-10	-.5812	.0807	-.0185	-.0719	.0095	-10	-.7513	.1568	.0668	-.0914	.0150
-7	-.4373	.0361	-.0308	-.0492	.0181	-7	-.5317	.0880	.0389	-.0635	.0077
-5	-.2848	.0191	-.0245	-.0332	.0164	-5	-.3691	.0508	.0063	-.0434	.0038
-3	-.1496	.0155	-.0173	-.0172	.0152	-3	-.2163	.0288	-.0077	-.0243	.0020
-2	-.0892	.0155	-.0106	-.0099	.0010	-2	-.1317	.0228	-.0042	-.0141	.0012
-1	-.0259	.0155	-.0038	-.0023	.0010	-1	-.0488	.0208	-.0003	-.0043	.0009
0	.0345	.0163	.0053	.0052	.0011	0	.0455	.0252	.0008	.0069	.0015
1	.0892	.0191	.0086	.0122	.0013	1	.1252	.0160	.0077	.0171	.0020
2	.1640	.0283	.0169	.0212	.0022	2	.2114	.0228	.0086	.0276	.0028
3	.2302	.0368	.0216	.0291	.0035	3	.2976	.0288	.0026	.0375	.0044
5	.3481	.0601	-.0049	.0448	.0053	5	.4602	.0528	-.0205	.0569	.0086
7	.4978	.0926	.0364	.0626	.0109	7	.6147	.0888	-.0509	.0760	.0142
10	.6359	.1578	-.0067	.0847	.0192	10	.8391	.1587	-.0867	.1023	.0247
15	.7366	.2561	-.0616	.1007	.0328						
20	.7423	.3382	-.0788	.1001	.0425						
25	.7510	.4245	-.0909	.0998	.0523						
M = 0.80						M = 1.00					
-10	-.6426	.1105	-.0190	-.0786	.0102	-10	-.7227	.1473	.0804	-.0842	.0137
-7	-.4609	.0576	-.0264	-.0545	.0045	-7	-.5138	.0826	.0453	-.0576	.0056
-5	-.3086	.0326	-.0283	-.0363	.0026	-5	-.3854	.0522	.0273	-.0423	.0038
-3	-.1582	.0211	-.0169	-.0176	.0012	-3	-.2198	.0282	.0112	-.0229	.0020
-2	-.0918	.0183	-.0103	-.0101	.0009	-2	-.1346	.0217	.0047	-.0128	.0014
-1	-.0273	.0173	.0015	-.0024	.0010	-1	-.0526	.0179	.0013	-.0034	.0012
0	.0430	.0192	.0071	.0069	.0009	0	.0433	.0190	-.0014	.0069	.0014
1	.1133	.0250	.0164	.0140	.0016	1	.1377	.0217	-.0059	.0178	.0021
2	.1856	.0298	.0230	.0227	.0025	2	.2290	.0266	-.0116	.0282	.0034
3	.2656	.0365	.0326	.0322	.0036	3	.3095	.0343	-.0212	.0372	.0047
5	.4121	.0576	.0403	.0504	.0071	5	.4612	.0579	-.0361	.0551	.0082
7	.5781	.0941	.0313	.0703	.0121	7	.5943	.0921	-.0566	.0723	.0130
10	.6817	.1537	-.0049	.0871	.0203	10	.8140	.1606	-.0974	.0977	.0227
15	.7578	.2497	-.0577	.1031	.0384						
20	.7774	.3353	-.0893	.1031	.0424						
25	.7930	.4304	-.0945	.1051	.0536						
M = 0.85						M = 1.05					
-10	-.6717	.1224	-.0039	-.0829	.0115	-10	-.7084	.1404	.0801	-.0798	.0122
-7	-.4905	.0648	-.0200	-.0578	.0055	-7	-.5112	.0797	.0462	-.0559	.0057
-5	-.3386	.0369	-.0257	-.0385	.0027	-5	-.3796	.0504	.0304	-.0405	.0030
-3	-.1684	.0225	-.0164	-.0181	.0014	-3	-.2152	.0301	.0136	-.0221	.0008
-2	-.0955	.0198	-.0074	-.0100	.0009	-2	-.1255	.0235	.0055	-.0115	.0002
-1	-.0238	.0189	.0005	-.0015	.0011	-1	-.0478	.0209	-.0008	-.0027	.0002
0	.0531	.0198	.0090	.0078	.0011	0	.0389	.0209	-.0027	.0070	.0001
1	.1226	.0243	.0188	.0152	.0020	1	.1285	.0257	-.0045	.0163	.0013
2	.1940	.0288	.0302	.0244	.0027	2	.2182	.0283	-.0146	.0260	.0024
3	.2837	.0360	.0339	.0348	.0041	3	.2929	.0375	-.0212	.0357	.0041
5	.4484	.0603	.0302	.0555	.0076	5	.4454	.0614	-.0391	.0535	.0070
7	.5912	.0945	.0179	.0737	.0126	7	.5769	.0945	-.0547	.0495	.0115
10	.7486	.1566	.0007	.0966	.0227	10	.7712	.1581	-.0914	.0931	.0205
15	.7852	.2548	-.0776	.1037	.0342						
20	.8090	.3466	-.0992	.1055	.0458						
25	.8218	.4501	-.1098	.1077	.0564						
M = 0.90						M = 1.10					
-10	-.7097	.1385	.0255	-.0882	.0140	-10	-.7152	.1485	.0812	-.0817	.0126
-7	-.5237	.0749	-.0002	-.0631	.0073	-7	-.5125	.0808	.0484	-.0559	.0051
-5	-.3773	.0432	-.0185	-.0432	.0036	-5	-.3822	.0523	.0330	-.0401	.0023
-3	-.2084	.0241	-.0182	-.0226	.0018	-3	-.2230	.0327	.0128	-.0223	.0002
-2	-.1240	.0182	-.0155	-.0132	.0013	-2	-.1361	.0260	.0070	-.0120	.0005
-1	-.0465	.0174	-.0364	-.0042	.0012	-1	-.0637	.0239	.0028	-.0038	.0003
0	.0465	.0199	.0084	.0073	.0013	0	.0261	.0239	.0003	.0067	.0003
1	.1171	.0220	.0168	.0153	.0011	1	.1100	.0263	-.0048	.0155	.0006
2	.2033	.0263	.0262	.0247	.0029	2	.1969	.0334	-.0107	.0258	.0018
3	.2894	.0339	.0283	.0352	.0044	3	.2722	.0434	-.0189	.0346	.0029
5	.4617	.0597	.0085	.0561	.0082	5	.4199	.0691	-.0352	.0521	.0058
7	.6150	.0941	-.0117	.0770	.0138	7	.5588	.0993	-.0528	.0679	.0104
10	.7735	.1555	-.0272	.0990	.0236	10	.7326	.1627	-.0846	.0726	.0187
15	.8613	.2618	-.0906	.1087	.0377						
20	.8820	.3575	-.1130	.1108	.0472						
25	.8854	.4693	-.1254	.1125	.0566						

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TABLE 3 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

 $\frac{t}{c} = 0.04$ $\frac{x}{c} = 0.40$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-.5242	.1771	-.0870	-.0655	.0235	-10	-.6278	.2687	-.0673	-.0722	.0306
-7	-.5443	.1417	-.1067	-.0647	.0180	-7	-.5218	.2206	-.0793	-.0581	.0250
-5	-.4525	.1175	-.1109	-.0513	.0147	-5	-.4322	.1884	-.0903	-.0487	.0216
-3	-.3456	.0992	-.1083	-.0364	.0127	-3	-.3751	.1644	-.0881	-.0391	.0189
-2	-.2880	.0978	-.0999	-.0291	.0120	-2	-.3425	.1604	-.0907	-.0355	.0179
-1	-.2419	.0956	-.0976	-.0227	.0118	-1	-.3098	.1443	-.0879	-.0313	.0167
0	-.1872	.0956	-.0941	-.0154	.0117	0	-.2202	.1443	-.1019	-.0198	.0170
1	-.1385	.0971	-.0885	-.0096	.0118	1	-.1631	.1403	-.0942	-.0140	.0162
2	-.0925	.0985	-.0869	-.0032	.0125	2	-.0277	.1443	-.0927	.0035	.0173
3	-.0435	.1027	-.0797	.0023	.0129	3	.0897	.1484	-.0910	.0168	.0179
5	.0547	.1126	-.0671	.0143	.0134	5	.2283	.1588	-.0865	.0341	.0201
7	.1584	.1204	-.0550	.0268	.0139	7	.5545	.1909	-.0884	.0712	.0277
10	.4810	.1573	-.0432	.0632	.0232						
15	.7200	.2393	-.0452	.0947	.0373						
20	.7719	.3131	-.0696	.1002	.0452						
25	.7805	.4080	-.0869	.1008	.0557						
M = 0.80						M = 1.00					
-10	-.5676	.2146	-.0723	-.0709	.0253	-10	-.5946	.2697	-.0503	-.0675	.0308
-7	-.6556	.1752	-.1134	-.0782	.0206	-7	-.4634	.2188	-.0808	-.0506	.0260
-5	-.5930	.1468	-.1110	-.0695	.0174	-5	-.3738	.1937	-.0983	-.0391	.0230
-3	-.4736	.1232	-.1096	-.0530	.0146	-3	-.2780	.1747	-.1111	-.0276	.0211
-2	-.3953	.1141	-.1026	-.0432	.0137	-2	-.2563	.1709	-.1154	-.0219	.0204
-1	-.3366	.1107	-.0928	-.0352	.0132	-1	-.1893	.1595	-.1204	-.0169	.0198
0	-.2779	.1092	-.0864	-.0277	.0129	0	-.1158	.1633	-.1282	-.0075	.0196
1	-.2231	.1083	-.0811	-.0208	.0129	1	-.0541	.1602	-.1315	.0005	.0197
2	-.1585	.1078	-.0771	-.0135	.0128	2	.0232	.1656	-.1259	.0091	.0201
3	-.1076	.1092	-.0741	-.0071	.0132	3	.0772	.1687	-.1291	.0156	.0206
5	.0000	.1155	-.0631	.0063	.0139	5	.1931	.1808	-.1289	.0295	.0222
7	.1370	.1222	-.0539	.0226	.0146	7	.3243	.1952	-.1240	.0445	.0248
10	.4736	.1492	-.0441	.0600	.0229	10	.5946	.2241	-.1040	.0736	.0307
15	.6458	.2334	-.0271	.0940	.0322						
20	.7965	.3638	-.0829	.1029	.0459						
25	.8200	.4187	-.0947	.1057	.0573						
M = 0.85						M = 1.05					
-10	-.6336	.2321	-.1020	-.0789	.0269	-10	-.5849	.2642	-.0458	-.0659	.0303
-7	-.6574	.1897	-.0992	-.0791	.0222	-7	-.4611	.2143	-.0763	-.0498	.0252
-5	-.6427	.1625	-.0842	-.0745	.0187	-5	-.3730	.1908	-.0919	-.0380	.0222
-3	-.5271	.1354	-.0941	-.0605	.0157	-3	-.2760	.1761	-.1054	-.0269	.0204
-2	-.4499	.1246	-.1008	-.0501	.0146	-2	-.2513	.1688	-.1132	-.0214	.0195
-1	-.3746	.1174	-.0998	-.0409	.0140	-1	-.1716	.1651	-.1165	-.0151	.0190
0	-.3122	.1147	-.0885	-.0319	.0135	0	-.1194	.1614	-.1220	-.0072	.0185
1	-.2442	.1129	-.0826	-.0236	.0135	1	-.0522	.1614	-.1271	.0000	.0186
2	-.1763	.1174	-.0778	-.0158	.0133	2	.0149	.1651	-.1248	.0084	.0188
3	-.1212	.1120	-.0769	-.0093	.0135	3	.0671	.1688	-.1254	.0149	.0192
5	.0000	.1219	-.0697	.0054	.0145	5	.1865	.1812	-.1279	.0288	.0204
7	.1414	.1264	-.0603	.0223	.0153	7	.3148	.1982	-.1163	.0435	.0230
10	.4701	.1517	-.0512	.0598	.0229	10	.5745	.2238	-.1008	.0773	.0291
15	.7676	.2420	-.0589	.0995	.0375						
20	.8301	.3296	-.0891	.1066	.0475						
25	.8448	.4308	-.0988	.1081	.0582						
M = 0.90						M = 1.10					
-10	-.6501	.2452	-.0899	-.0762	.0276	-10	-.5781	.2524	-.0457	-.0645	.0294
-7	-.6363	.2055	-.0631	-.0727	.0231	-7	-.4481	.2097	-.0711	-.0490	.0236
-5	-.5968	.1759	-.0511	-.0644	.0196	-5	-.3686	.1862	-.0871	-.0380	.0206
-3	-.4987	.1506	-.0561	-.0530	.0167	-3	-.2775	.1706	-.1020	-.0270	.0188
-2	-.4437	.1396	-.0639	-.0461	.0154	-2	-.2269	.1649	-.1050	-.0210	.0180
-1	-.3784	.1311	-.0703	-.0379	.0146	-1	-.1734	.1599	-.1110	-.0143	.0174
0	-.3147	.1268	-.0679	-.0292	.0141	0	-.1127	.1592	-.1173	-.0073	.0169
1	-.2580	.1243	-.0634	-.0223	.0139	1	-.0549	.1564	-.1260	.0001	.0167
2	-.1892	.1226	-.0622	-.0144	.0136	2	.0072	.1607	-.1263	.0079	.0167
3	-.1273	.1226	-.0640	-.0068	.0139	3	.0650	.1670	-.1216	.0145	.0171
5	.0086	.1277	-.0706	.0094	.0147	5	.1734	.1812	-.1222	.0278	.0183
7	.1548	.1353	-.0653	.0271	.0156	7	.3108	.1990	-.1128	.0428	.0215
10	.4867	.1607	-.0641	.0649	.0232	10	.5579	.2239	-.0943	.0760	.0274
15	.7825	.2495	-.0672	.1078	.0372						

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TABLE 3 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL -- Continued

 $\frac{t}{c} = 0.04$
 $\frac{x_n}{c} = 0.60$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.7631	.2179	-.0239	-.0957	.0280	-10	-.8526	.3018	-.0181	-.1039	.0362
-7	-.7003	.1631	-.0544	-.0835	.0215	-7	-.7008	.2343	-.0378	-.0859	.0290
-5	-.5716	.1335	-.0642	-.0679	.0171	-5	-.6007	.1985	-.0470	-.0725	.0246
-3	-.4573	.1159	-.0542	-.0523	.0139	-3	-.5490	.1628	-.0305	-.0647	.0202
-2	-.4059	.1089	-.0438	-.0460	.0127	-2	-.4683	.1509	-.0451	-.0559	.0190
-1	-.3630	.1040	-.0392	-.0405	.0120	-1	-.3940	.1389	-.0438	-.0477	.0173
0	-.3087	.1019	-.0335	-.0338	.0113	0	-.3036	.1389	-.0536	-.0359	.0169
1	-.2658	.0985	-.0683	-.0277	.0109	1	-.2422	.1310	-.0427	-.0294	.0159
2	-.2144	.0998	-.0224	-.0208	.0106	2	-.1615	.1310	-.0456	-.0180	.0159
3	-.1515	.1005	-.0148	-.0142	.0107	3	-.0807	.1350	-.0486	-.0108	.0159
5	-.0200	.1026	-.0012	.0012	.0107	5	.0646	.1310	-.0413	.0069	.0158
7	.1286	.1139	-.0038	.0188	.0111	7	.3036	.1485	-.0530	.0343	.0202
10	.4574	.1602	-.0208	.0569	.0203	10	.6007	.1906	-.0624	.0699	.0280
15	.6660	.2425	-.0422	.0867	.0334						
20	.7431	.3107	-.0668	.0948	.0422						
25	.7574	.4063	-.0802	.0963	.0530						
M = 0.80						M = 1.00					
-10	-.8343	.2529	-.0572	-.1056	.0301	-10	-.7687	.2986	-.0315	-.0933	.0345
-7	-.7877	.1956	-.0614	-.0961	.0243	-7	-.6303	.2374	-.0532	-.0756	.0278
-5	-.6519	.1603	-.0670	-.0789	.0197	-5	-.5381	.2042	-.0631	-.0637	.0244
-3	-.5336	.1336	-.0528	-.0632	.0163	-3	-.4335	.1701	-.0724	-.0513	.0213
-2	-.4715	.1241	-.0399	-.0557	.0148	-2	-.3720	.1679	-.0756	-.0435	.0199
-1	-.4171	.1193	-.0294	-.0491	.0136	-1	-.3013	.1603	-.0813	-.0351	.0188
0	-.3589	.1145	-.0229	-.0424	.0126	0	-.2183	.1550	-.0814	-.0264	.0179
1	-.3104	.1097	-.0141	-.0353	.0122	1	-.1537	.1535	-.0820	-.0177	.0177
2	-.2522	.1050	-.0130	-.0283	.0118	2	-.0861	.1550	-.0794	-.0096	.0174
3	-.1804	.1050	-.0046	-.0200	.0115	3	-.0184	.1535	-.0764	-.0019	.0176
5	-.0388	.1030	.0021	-.0035	.0114	5	.1353	.1565	-.0728	.0155	.0177
7	.1555	.1097	.0011	.0196	.0123	7	.3382	.1679	-.0695	.0389	.0217
10	.4851	.1479	-.0239	.0581	.0208	10	.6149	.2056	-.0838	.0715	.0293
15	.7082	.2338	-.0466	.0903	.0347						
20	.7664	.3130	-.0781	.0965	.0424						
25	.8149	.4055	-.0901	.0989	.0543						
M = 0.85						M = 1.05					
-10	-.8460	.2657	-.0559	-.1078	.0318	-10	-.7421	.2919	-.0303	-.0913	.0257
-7	-.8187	.2102	-.0389	-.0994	.0256	-7	-.6234	.2321	-.0516	-.0739	.0265
-5	-.7277	.1745	-.0413	-.0876	.0212	-5	-.5313	.2007	-.0603	-.0624	.0227
-3	-.5731	.1432	-.0512	-.0684	.0174	-3	-.4304	.1752	-.0667	-.0498	.0198
-2	-.4949	.1324	-.0462	-.0589	.0156	-2	-.3681	.1679	-.0707	-.0420	.0183
-1	-.4457	.1253	-.0320	-.0515	.0144	-1	-.2968	.1598	-.0769	-.0339	.0171
0	-.3730	.1181	-.0225	-.0434	.0134	0	-.2226	.1533	-.0798	-.0255	.0160
1	-.3184	.1566	-.0167	-.0364	.0126	1	-.1603	.1533	-.0755	-.0174	.0160
2	-.2511	.1110	-.0137	-.0283	.0123	2	-.1039	.1496	-.0779	-.0099	.0154
3	-.1819	.1073	-.0113	-.0202	.0122	3	-.0148	.1467	-.0721	-.0012	.0158
5	-.0364	.1064	-.0033	-.0029	.0119	5	.1187	.1547	-.0642	.0150	.0159
7	.1383	.1163	.0024	.0173	.0132	7	.3414	.1679	-.0635	.0390	.0206
10	.5003	.1521	-.0251	.0596	.0214	10	.5937	.2044	-.0812	.0690	.0280
15	.7368	.2416	-.0577	.0931	.0355						
20	.8005	.3221	-.0848	.1005	.0464						
25	.8278	.4268	-.0969	.1038	.0569						
M = 0.90						M = 1.10					
-10	-.8665	.2736	-.0399	-.1084	.0337	-10	-.7191	.2773	-.0257	-.0887	.0307
-7	-.8425	.2172	-.0069	-.0987	.0273	-7	-.6040	.2207	-.0494	-.0719	.0242
-5	-.7258	.1810	-.0094	-.0876	.0228	-5	-.5244	.1945	-.0556	-.0617	.0208
-3	-.6060	.1482	-.0172	-.0741	.0187	-3	-.4314	.1698	-.0651	-.0486	.0178
-2	-.5409	.1347	-.0227	-.0658	.0169	-2	-.3595	.1627	-.0678	-.0413	.0163
-1	-.4622	.1262	-.0211	-.0557	.0154	-1	-.2963	.1542	-.0764	-.0332	.0153
0	-.3937	.1179	-.0104	-.0474	.0143	0	-.2244	.1486	-.0791	-.0253	.0145
1	-.3255	.1111	-.0091	-.0388	.0137	1	-.1668	.1478	-.0782	-.0180	.0141
2	-.2431	.1095	-.0113	-.0298	.0134	2	-.1035	.1471	-.0788	-.0102	.0140
3	-.1712	.1053	-.0155	-.0204	.0131	3	-.0374	.1471	-.0689	-.0023	.0141
5	.0000	.1053	-.0118	-.0003	.0131	5	.1151	.1549	-.0599	.0157	.0145
7	.2054	.1179	-.0120	.0232	.0156	7	.3308	.1669	-.0594	.0387	.0190
10	.5478	.1642	-.0293	.0627	.0244	10	.5695	.2023	-.0735	.0669	.0265
15	.8388	.2517	-.0721	.1018	.0388						

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

 $\frac{x}{c} = 0.04$
 $\frac{y}{c} = 0.80$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.9410	.2847	.0580	-.1139	.0282	-7	-.8219	.2584	.0715	-.0945	.0281
-7	-.8070	.1816	.0197	-.0946	.0206	-5	-.7059	.2227	.0537	-.0795	.0240
-5	-.6501	.1494	.0178	-.0764	.0159	-3	-.4029	.1870	-.0017	-.0665	.0197
-3	-.5275	.1297	.0246	-.0606	.0131	-2	-.5286	.1688	.0444	-.0583	.0180
-2	-.4705	.1213	.0327	-.0534	.0118	-1	-.4319	.1632	.0396	-.0473	.0168
-1	-.4192	.1151	.0391	-.0470	.0108	0	-.3545	.1529	.0441	-.0388	.0155
0	-.3536	.1094	.0450	-.0398	.0097	1	-.2869	.1514	.0420	-.0310	.0150
1	-.2966	.1045	.0535	-.0332	.0092	2	-.2031	.1450	.0450	-.0199	.0145
2	-.2509	.1017	.0539	-.0268	.0090	3	-.1257	.1434	.0451	-.0108	.0144
3	-.1853	.0982	.0576	-.0185	.0086	5	.0677	.1395	.0425	.0104	.0144
5	-.0456	.0940	.0654	-.0029	.0086	7	.3062	.1570	.0150	.0368	.0186
7	.1141	.1017	.0727	.0159	.0095	10	.5995	.2029	-.0250	.0724	.0275
10	.4106	.1500	.0257	.0508	.0179						
15	.6587	.2454	-.0315	.0880	.0328						
20	.7528	.3155	-.0730	.0975	.0421						
25	.7585	.3982	-.0807	.0969	.0511						
M = 0.80						M = 1.00					
-10	-1.0150	.2705	.0452	-.1207	.0307	-7	-.7666	.2564	.0645	-.0881	.0260
-7	-.8871	.2048	.0341	-.1038	.0239	-5	-.6716	.2179	.0511	-.0757	.0214
-5	-.7089	.1648	.0286	-.0823	.0188	-3	-.5642	.1855	.0436	-.0620	.0186
-3	-.5733	.1400	.0373	-.0666	.0154	-2	-.4876	.1742	.0407	-.0533	.0170
-2	-.4959	.1276	.0468	-.0576	.0136	-1	-.4109	.1659	.0398	-.0447	.0156
-1	-.4416	.1191	.0546	-.0505	.0127	0	-.3342	.1591	.0390	-.0357	.0146
0	-.3874	.1095	.0604	-.0431	.0114	1	-.2729	.1523	.0421	-.0273	.0140
1	-.3138	.1038	.0672	-.0353	.0106	2	-.1809	.1463	.0375	-.0171	.0137
2	-.2479	.1010	.0717	-.0274	.0103	3	-.0889	.1455	.0415	-.0078	.0141
3	-.1666	.0943	.0704	-.0176	.0097	5	.1104	.1493	.0307	.0152	.0149
5	-.0155	.0905	.0779	.0000	.0099	7	.3281	.1629	.0047	.0403	.0192
7	.1472	.1019	.0793	.0184	.0110	10	.5837	.2081	-.0387	.0710	.0273
10	.4997	.1952	.0104	.0607	.0203						
15	.7206	.2382	-.0512	.0921	.0343						
20	.8213	.3134	-.0950	.1019	.0421						
25	.8407	.4077	-.0986	.1019	.0535						
M = 0.85						M = 1.05					
-7	-.9293	.2160	.0641	-.1065	.0246	-7	-.7670	.2519	.0670	-.0905	.0251
-5	-.7514	.1723	.0414	-.0874	.0202	-5	-.6782	.2119	.0535	-.0779	.0209
-3	-.5990	.1428	.0415	-.0698	.0167	-3	-.5449	.1828	.0463	-.0629	.0174
-2	-.5119	.1321	.0498	-.0587	.0141	-2	-.4709	.1711	.0413	-.0545	.0156
-1	-.4465	.1223	.0569	-.0510	.0132	-1	-.3968	.1610	.0405	-.0458	.0143
0	-.3848	.1134	.0621	-.0426	.0121	0	-.3258	.1544	.0405	-.0374	.0136
1	-.3086	.1089	.0641	-.0349	.0113	1	-.2636	.1500	.0406	-.0294	.0131
2	-.2396	.1036	.0685	-.0257	.0109	2	-.1895	.1427	.0380	-.0195	.0124
3	-.1561	.0973	.0688	-.0158	.0102	3	-.0977	.1405	.0451	-.0096	.0128
5	.0036	.0955	.0748	.0029	.0106	5	.1155	.1493	.0314	.0141	.0147
7	.1888	.1089	.0768	.0231	.0127	7	.3287	.1617	.0036	.0380	.0188
10	.5082	.1545	.0303	.0595	.0211	10	.5627	.2083	-.0362	.0671	.0258
15	.7587	.2499	-.0594	.0991	.0378						
20	.8422	.3365	-.0972	.1065	.0484						
25	.8531	.4312	-.1084	.1083	.0558						
M = 0.90						M = 1.10					
-7	-.9089	.2285	.0946	-.1044	.0253	-7	-.7430	.2405	.0687	-.0882	.0232
-5	-.7927	.1873	.0797	-.0892	.0210	-5	-.6569	.2017	.0530	-.0754	.0195
-3	-.6253	.1571	.0529	-.0708	.0174	-3	-.5422	.1756	.0464	-.0615	.0160
-2	-.5364	.1437	.0498	-.0598	.0159	-2	-.4676	.1629	.0417	-.0537	.0145
-1	-.4578	.1344	.0617	-.0515	.0146	-1	-.3873	.1559	.0420	-.0450	.0132
0	-.3861	.1252	.0630	-.0425	.0134	0	-.3270	.1488	.0421	-.0374	.0123
1	-.3143	.1193	.0625	-.0332	.0129	1	-.2553	.1418	.0414	-.0290	.0118
2	-.2187	.1202	.0598	-.0225	.0129	2	-.1836	.1368	.0407	-.0189	.0115
3	-.1298	.1075	.0631	-.0128	.0116	3	-.0688	.1383	.0431	-.0081	.0120
5	.0444	.1075	.0660	.0069	.0114	5	.1176	.1453	.0329	.0151	.0136
7	.2563	.1235	.0516	.0311	.0149	7	.3184	.1609	.0073	.0374	.0174
10	.5774	.1748	.0099	.0698	.0248	10	.5336	.2109	-.0315	.0656	.0237
15	.8405	.2663	-.0690	.1071	.0406						
20	.8918	.3554	-.1114	.1123	.0497						
25	.8713	.4486	-.1187	.1123	.0571						

TABLE 3 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL -- Continued

$$\frac{x}{c} = 0.04 \quad \frac{y}{c} = 1.00$$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-1.1630	.3107	.1966	-.1359	.0352	-5	-.8932	.2261	.2290	-.1025	.0240
-7	-1.0194	.2224	.1565	-.1162	.0253	-3	-.7308	.1853	.2112	-.0834	.0203
-5	-.8816	.1766	.1579	-.0982	.0192	-2	-.6431	.1717	.2048	-.0736	.0185
-3	-.7322	.1469	.1704	-.0813	.0152	-1	-.5521	.1582	.2038	-.0641	.0172
-2	-.6604	.1398	.1769	-.0732	.0139	0	-.4612	.1478	.1995	-.0542	.0160
-1	-.5944	.1307	.1750	-.0653	.0132	1	-.3897	.1374	.1990	-.0460	.0150
0	-.5312	.1229	.1785	-.0575	.0118	2	-.2631	.1278	.1881	-.0328	.0139
1	-.4594	.1159	.1779	-.0500	.0111	3	-.1624	.1238	.1781	-.0217	.0137
2	-.3877	.1094	.1892	-.0418	.0103	5	.0747	.1262	.1471	.0033	.0149
3	-.2900	.0989	.1684	-.0305	.0093	7	.3215	.1334	.0935	.0315	.0173
5	-.1149	.0910	.1576	-.0110	.0089	10	.6333	.1901	.0199	.0716	.0268
7	.0804	.0961	.1411	-.0160	-.0038	15	.9581	.3075	-.0479	.1143	.0445
10	.4020	.1447	.0674	.0502	.0171						
15	.6863	.2436	-.0267	.0894	.0324						
20	.7897	.3233	-.0880	.1043	.0419						
25	.7897	.4123	-.0995	.1040	.0519						
M = 0.80						M = 1.00					
-7	-1.0721	.2421	.1818	-.1234	.0258	-5	-.8585	.2263	.2315	-.0974	.0237
-5	-.8967	.1917	.1723	-.1025	.0206	-3	-.7041	.1823	.2166	-.0796	.0198
-3	-.7212	.1557	.1726	-.0836	.0169	-2	-.6176	.1686	.2113	-.0712	.0178
-2	-.6433	.1438	.1822	-.0741	.0151	-1	-.5342	.1542	.2025	-.0618	.0165
-1	-.5653	.1327	.1823	-.0655	.0138	0	-.4478	.1405	.2037	-.0515	.0152
0	-.4873	.1222	.1811	-.0568	.0128	1	-.3489	.1306	.1998	-.0412	.0137
1	-.4093	.1140	.1832	-.0485	.0119	2	-.2409	.1238	.1872	-.0300	.0131
2	-.3236	.1059	.1797	-.0390	.0110	3	-.1390	.1200	.1770	-.0194	.0131
3	-.2144	.0959	.1654	-.0272	.0099	5	.1173	.1230	.1290	.0087	.0146
5	-.0390	.0910	.1353	-.0075	.0102	7	.3613	.1443	.0716	.0369	.0189
7	.1559	.1007	.1468	.0142	.0111	10	.6330	.1974	.0072	.0709	.0269
10	.5068	.1442	.0414	.0564	.0195						
15	.7602	.2474	-.0541	.0934	.0340						
20	.8499	.3307	-.1067	.1045	.0431						
25	.8382	.4238	-.1091	.1045	.0535						
M = 0.85						M = 1.05					
-5	-.9026	.1963	.1824	-.1050	.0207	-5	-.8198	.2177	.2295	-.0998	.0225
-3	-.7163	.1537	.1720	-.0828	.0174	-3	-.6708	.1760	.2098	-.0763	.0187
-2	-.6359	.1415	.1790	-.0735	.0156	-2	-.5903	.1598	.2086	-.0669	.0167
-1	-.5482	.1303	.1823	-.0643	.0140	-1	-.5068	.1466	.2048	-.0579	.0151
0	-.4751	.1204	.1819	-.0562	.0129	0	-.4204	.1356	.1999	-.0488	.0138
1	-.4020	.1124	.1833	-.0473	.0120	1	-.3279	.1261	.1922	-.0392	.0126
2	-.2924	.1033	.1757	-.0366	.0108	2	-.2176	.1210	.1831	-.0274	.0122
3	-.1973	.0939	.1681	-.0248	.0097	3	-.0954	.1173	.1637	-.0145	.0124
5	.0000	.0921	.1607	-.0041	.0106	5	.1431	.1246	.1154	.0118	.0141
7	.2193	.1078	.1383	.0207	.0122	7	.3518	.1429	.0670	.0359	.0176
10	.5299	.1469	.0627	.0588	.0207	10	.6022	.1943	.0061	.0672	.0242
15	.8040	.2561	-.0642	.0976	.0354						
M = 0.90						M = 1.10					
-5	-.9703	.2094	.2207	-.1068	.0226	-5	-.7858	.2096	.2243	-.0900	.0210
-3	-.7225	.1713	.1844	-.0842	.0188	-3	-.6211	.1740	.2053	-.0739	.0175
-2	-.6365	.1566	.1830	-.0741	.0175	-2	-.5720	.1563	.2062	-.0649	.0157
-1	-.5505	.1460	.1870	-.0644	.0163	-1	-.4882	.1421	.2025	-.0561	.0143
0	-.4645	.1354	.1863	-.0550	.0148	0	-.4044	.1314	.1989	-.0462	.0129
1	-.3854	.1269	.1861	-.0470	.0139	1	-.3033	.1222	.1891	-.0359	.0120
2	-.2753	.1151	.1748	-.0345	.0123	2	-.1849	.1172	.1730	-.0234	.0118
3	-.1755	.1058	.1685	-.0240	.0121	3	-.0664	.1172	.1537	-.0111	.0120
5	.0310	.1037	.1589	-.0014	.0123	5	.1444	.1243	.1091	.0131	.0133
7	.2753	.1206	.1183	.0268	.0146	7	.3467	.1421	.0634	.0359	.0171
10	.5987	.1671	.0484	.0665	.0235	10	.5806	.1918	.0069	.0663	.0231
15	.8602	.2665	-.0717	.1030	.0373						

TABLE 3 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL -- Continued

 $\frac{t}{c} = 0.06$ $\frac{x_a}{c} = \text{NONE}$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.5757	.0969	.0288	-.0655	.0025	-10	-.6463	.1396	.0750	-.0771	.0089
-5	-.2823	.0357	-.0165	-.0322	-.0006	-7	-.4556	.0792	.0281	-.0528	.0023
-2	-.1653	.0319	-.0156	-.0186	-.0010	-5	-.3178	.0532	.0047	-.0360	-.0002
-1	-.1040	.0282	.0707	-.0114	-.0014	-3	-.1801	.0375	-.0047	-.0202	-.0013
0	-.0464	.0282	-.0114	-.0054	-.0010	-2	-.1144	.0322	-.0047	-.0123	-.0015
1	.0093	.0301	-.0049	.0015	-.0007	-1	-.0487	.0303	-.0024	-.0048	-.0018
2	.0687	.0331	-.0091	.0078	-.0007	0	.0212	.0343	-.0024	.0038	-.0015
3	.1226	.0345	-.0065	.0141	-.0007	1	.0848	.0343	.0024	.0111	-.0018
4	.1783	.0412	-.0082	.0207	-.0006	2	.1483	.0375	.0024	.0180	-.0013
5	.2315	.0565	-.0033	.0346	-.0003	3	.2140	.0428	.0033	.0261	.0002
6	.2915	.0850	-.0049	.0487	.0016	4	.2846	.0636	-.0024	.0429	.0038
7	.3664	.1471	-.0305	.0685	.0109	5	.3496	.0949	-.0281	.0600	.0079
8	.4592	.2466	-.0986	.0850	.0243	6	.4632	.1521	-.0750	.0826	.0163
9	.5678	.3268	-.1315	.0868	.0338	7	.5921	.2824	-.1289	.1162	.0351
10	.6778	.3981	-.1445	.0856	.0419	8	.7323	.3918	-.1945	.1131	.0470
11	.7417	.4093	-.1557	.0907	.0479	9	.8662	.5064	-.2156	.1166	.0609
M = 0.80						M = 1.00					
-10	-.6034	.1026	.0195	-.0708	.0050	-10	-.6899	.1546	.1123	-.0780	.0098
-7	-.4581	.0581	.0000	-.0515	.0015	-7	-.4870	.0909	.0561	-.0555	.0038
-5	-.3143	.0347	-.0112	-.0356	.0001	-5	-.3531	.0629	.0359	-.0394	.0009
-3	-.1823	.0234	-.0055	-.0197	-.0008	-3	-.2070	.0448	.0179	-.0228	-.0006
-2	-.1194	.0234	-.0028	-.0130	-.0011	-2	-.1278	.0390	.0085	-.0138	-.0011
-1	-.0553	.0224	-.0022	-.0061	-.0008	-1	-.0507	.0359	.0023	-.0057	-.0014
0	.0088	.0229	.0033	.0016	-.0009	0	.0244	.0858	-.0045	.0038	-.0014
1	.0767	.0241	.0039	.0092	-.0010	1	.0913	.0390	-.0112	.0115	-.0014
2	.1358	.0254	.0128	.0163	-.0009	2	.1725	.0459	-.0202	.0205	-.0006
3	.2074	.0314	.0095	.0236	-.0004	3	.2537	.0558	-.0301	.0295	.0013
4	.2882	.0500	.0222	.0395	.0030	4	.3957	.0739	-.0472	.0460	.0036
5	.3888	.0797	.0039	.0541	.0064	5	.5215	.1009	-.0709	.0604	.0075
6	.4888	.1317	-.0077	.0736	.0130	6	.6997	.1656	-.1189	.0841	.0170
7	.6009	.2343	-.1001	.0854	.0267	7	.9016	.3103	-.1863	.1221	.0379
8	.7216	.3140	-.1335	.0893	.0372	8	1.1851	.4700	-.2200	.1448	.0599
9	.8417	.4093	-.1557	.0907	.0479	9	1.4810	.6147	-.2828	.1438	.0754
M = 0.85						M = 1.05					
-10	-.6210	.1114	.0235	-.0733	.0071	-10	-.6724	.1495	.1121	-.0751	.0104
-7	-.4604	.0616	.0026	-.0523	.0020	-7	-.4756	.0920	.0647	-.0531	.0039
-5	-.3258	.0371	-.0105	-.0361	.0004	-5	-.3508	.0651	.0414	-.0383	.0014
-3	-.1960	.0255	-.0052	-.0208	-.0004	-3	-.2046	.0479	.0216	-.0219	-.0005
-2	-.1299	.0243	.0000	-.0132	-.0006	-2	-.1267	.0411	.0108	-.0132	-.0009
-1	-.0590	.0243	.0078	-.0057	-.0008	-1	-.0487	.0394	.0048	-.0049	-.0008
0	.0118	.0243	.0026	.0021	-.0007	0	.0175	.0394	-.0022	.0027	-.0011
1	.0826	.0267	.0105	.0101	-.0008	1	.0877	.0431	-.0108	.0109	-.0012
2	.1417	.0302	.0130	.0172	-.0006	2	.1657	.0479	-.0189	.0197	.0002
3	.2007	.0359	.0130	.0239	-.0011	3	.2436	.0536	-.0298	.0284	.0017
4	.2647	.0534	.0130	.0405	.0037	4	.3840	.0729	-.0496	.0437	.0059
5	.3447	.0824	.0026	.0558	.0059	5	.5145	.1015	-.0711	.0585	.0095
6	.4604	.1346	-.0209	.0755	.0131	6	.6997	.1678	-.1164	.0804	.0184
7	.6044	.2392	-.1086	.0873	.0274	7	.9901	.3115	-.1936	.1167	.0387
8	.7673	.3367	-.1436	.0932	.0394	8	1.2006	.4908	-.2500	.1448	.0632
9	.8739	.4250	-.1672	.0955	.0509	9	1.4744	.6442	-.2888	.1539	.0843
M = 0.90						M = 1.10					
-10	-.6324	.1238	.0419	-.0755	.0079	-10	-.6429	.1346	.1008	-.0717	.0128
-7	-.4587	.0724	.0123	-.0531	.0021	-7	-.4686	.0866	.0684	-.0516	.0067
-5	-.3340	.0450	.0025	-.0376	.0000	-5	-.3467	.0609	.0415	-.0375	.0038
-3	-.1959	.0330	-.0035	-.0213	-.0009	-3	-.2005	.0452	.0220	-.0209	.0013
-2	-.1336	.0285	.0000	-.0139	-.0010	-2	-.1237	.0395	.0145	-.0129	.0009
-1	-.0557	.0240	.0064	-.0054	-.0010	-1	-.0581	.0379	.0041	-.0059	.0009
0	.0200	.0274	.0025	.0012	-.0012	0	.0150	.0379	-.0021	.0030	.0004
1	.0868	.0285	.0049	.0108	-.0016	1	.0750	.0424	-.0083	.0102	.0001
2	.1447	.0307	.0103	.0180	-.0012	2	.1537	.0470	-.0166	.0185	.0013
3	.2182	.0350	.0089	.0258	.0002	3	.2230	.0525	-.0249	.0259	.0026
4	.3029	.0581	.0059	.0414	.0036	4	.3561	.0746	-.0477	.0408	.0070
5	.4065	.0833	-.0069	.0560	.0062	5	.4817	.1068	-.0684	.0549	.0106
6	.5121	.1403	-.0370	.0780	.0138	6	.6560	.1659	-.1057	.0755	.0190
7	.6370	.2420	-.1133	.0937	.0281	7	.9371	.3143	-.1853	.1107	.0382
8	.7861	.3516	-.1665	.1002	.0418	8	1.1508	.4959	-.2479	.1383	.0613
9	.8461	.4500	-.1861	.1020	.0537	9	1.2820	.6785	-.2985	.1577	.0866

TABLE 3 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

$$\frac{t}{c} = 0.06 \quad \frac{x_h}{c} = 0.40$$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.5367	.1898	-.0493	-.0646	.0138	-10	-.5810	.2608	-.0445	-.0724	.0238
-7	-.5181	.1571	-.0698	-.0604	.0105	-7	-.5492	.2241	-.0375	-.0660	.0194
-5	-.4345	.1359	-.0731	-.0502	.0083	-5	-.5089	.2002	-.0304	-.0599	.0161
-3	-.3324	.1233	-.0813	-.0382	.0072	-3	-.4431	.1773	-.0352	-.0511	.0133
-2	-.2990	.1207	-.0740	-.0315	.0069	-2	-.4007	.1647	-.0375	-.0453	.0133
-1	-.2507	.1196	-.0780	-.0258	.0068	-1	-.3371	.1565	-.0422	-.0372	.0131
0	-.2080	.1196	-.0764	-.0201	.0072	0	-.2629	.1565	-.0539	-.0283	.0123
1	-.1653	.1207	-.0796	-.0153	.0076	1	-.1993	.1512	-.0563	-.0214	.0127
2	-.1207	.1233	-.0657	-.0099	.0082	2	-.1463	.1533	-.0586	-.0149	.0123
3	-.0817	.1252	-.0740	-.0057	.0083	3	-.0912	.1533	-.0634	-.0087	.0130
5	.0000	.1370	-.0698	.0045	.0097	5	.0127	.1565	-.0704	.0034	.0131
7	.0817	.1415	-.0533	.0147	.0094	7	.1293	.1616	-.0704	.0170	.0138
10	.3454	.1690	-.0624	.0436	.0104	10	.4368	.2033	-.1079	.0523	.0215
15	.6202	.2559	-.0863	.0781	.0240	15	.7803	.2712	-.1407	.0944	.0350
20	.6759	.3242	-.1150	.0859	.0324	20	.9138	.3806	-.1759	.1122	.0510
25	.6834	.4000	-.1331	.0871	.0400	25	.9350	.4849	-.2063	.1149	.0598
M = 0.80						M = 1.00					
-10	-.5833	.2225	-.0501	-.0712	.0173	-10	-.5808	.2847	-.0135	-.0680	.0257
-7	-.5695	.0606	-.0651	-.0686	.0132	-7	-.4650	.2396	-.0494	-.0526	.0208
-5	-.5519	.1584	-.0584	-.0641	.0105	-5	-.3838	.2146	-.0674	-.0425	.0189
-3	-.4613	.1385	-.0584	-.0523	.0084	-3	-.2883	.1947	-.0831	-.0317	.0176
-2	-.4048	.1322	-.0573	-.0448	.0079	-2	-.2396	.1848	-.0854	-.0258	.0167
-1	-.3507	.1285	-.0556	-.0378	.0083	-1	-.1767	.1848	-.0966	-.0181	.0161
0	-.3004	.1285	-.0550	-.0315	.0088	0	-.1097	.1848	-.1056	-.0100	.0164
1	-.2451	.1262	-.0523	-.0248	.0088	1	-.0467	.1848	-.1123	-.0028	.0170
2	-.2011	.1262	-.0501	-.0193	.0088	3	.0629	.1897	-.0966	.0108	.0173
3	-.1458	.1275	-.0506	-.0132	.0091	5	.1645	.2008	-.1280	.0222	.0195
5	-.0515	.1322	-.0484	-.0028	.0099	7	.2721	.2098	-.1325	.0345	.0216
7	.0578	.1360	-.0373	.0104	.0110	10	.4833	.2248	-.1348	.0575	.0261
10	.3407	.1571	-.0584	.0425	.0143	15	.8407	.3145	-.1774	.1005	.0409
15	.6461	.2348	-.0840	.0797	.0300	20	1.0803	.4644	-.2381	.1304	.0622
20	.7316	.3153	-.1235	.0891	.0393	25	1.1615	.5931	-.2695	.1406	.0793
25	.7593	.4018	-.1446	.0915	.0507						
M = 0.85						M = 1.05					
-10	-.6070	.2265	-.0679	-.0755	.0209	-10	-.5734	.2781	-.0108	-.0650	.0265
-7	-.5763	.1906	-.0580	-.0698	.0163	-7	-.4525	.2301	-.0445	-.0505	.0215
-5	-.5668	.1684	-.0444	-.0663	.0126	-5	-.3686	.2110	-.0626	-.0399	.0189
-3	-.5125	.1464	-.0444	-.0577	.0114	-3	-.2769	.1919	-.0798	-.0289	.0178
-2	-.4464	.1393	-.0470	-.0491	.0104	-2	-.2262	.1870	-.0863	-.0230	.0168
-1	-.3873	.1337	-.0418	-.0422	.0101	-1	-.1697	.1851	-.0949	-.0163	.0165
0	-.3283	.1337	-.0444	-.0348	.0098	0	-.1092	.1804	-.1014	-.0095	.0166
1	-.2716	.1313	-.0444	-.0277	.0096	1	-.0488	.1822	-.1100	-.0027	.0174
2	-.2220	.1313	-.0444	-.0216	.0096	2	.0117	.1851	-.1122	.0044	.0181
3	-.1701	.1313	-.0470	-.0157	.0100	3	.0624	.1919	-.1187	.0107	.0189
5	-.0590	.1370	-.0502	-.0029	.0106	5	.1521	.2015	-.1272	.0219	.0203
7	.0614	.1393	-.0486	.0111	.0116	7	.2730	.2149	-.1337	.0338	.0222
10	.3425	.1616	-.0627	.0424	.0148	10	.4895	.2379	-.1337	.0576	.0275
15	.6755	.2428	-.0956	.0831	.0309	15	.8269	.3214	-.1812	.0982	.0413
20	.7700	.3252	-.1322	.0932	.0206	20	1.0571	.4632	-.2390	.1272	.0612
25	.8007	.4204	-.1604	.0971	.0267	25	1.2131	.6426	-.2908	.1477	.0871
M = 0.90						M = 1.10					
-10	-.5793	.2411	-.0641	-.0734	.0223	-10	-.5478	.2612	-.0125	-.0622	.0263
-7	-.5548	.2028	-.0542	-.0692	.0187	-7	-.4334	.2195	-.0415	-.0481	.0215
-5	-.5481	.1807	-.0370	-.0660	.0156	-5	-.3527	.2002	-.0594	-.0382	.0192
-3	-.5258	.1589	-.0222	-.0613	.0137	-3	-.2664	.1863	-.0747	-.0276	.0182
-2	-.4768	.1479	-.0222	-.0546	.0124	-2	-.2176	.1799	-.0822	-.0219	.0172
-1	-.3921	.1424	-.0271	-.0463	.0117	-1	-.1576	.1752	-.0930	-.0158	.0170
0	-.3454	.1404	-.0271	-.0382	.0111	0	-.0976	.1745	-.1009	-.0091	.0174
1	-.2896	.0285	-.0276	-.0315	.0104	1	-.0488	.1745	-.1083	-.0030	.0180
2	-.2429	.1370	-.0281	-.0260	.0100	2	-.0019	.1780	-.1079	.0030	.0186
3	-.1827	.1315	-.0320	-.0189	.0098	3	.0582	.1827	-.1145	.0096	.0189
5	-.0646	.1393	-.0419	-.0054	.0111	5	.1576	.1957	-.1229	.0206	.0208
7	.0691	.1446	-.0592	.0110	.0117	7	.2552	.2084	-.1250	.0319	.0225
10	.3587	.1676	-.0740	.0442	.0164	10	.4709	.2353	-.1266	.0549	.0276
15	.7219	.2466	-.1109	.0871	.0320	15	.7899	.3184	-.1764	.0465	.0409
20	.8155	.3407	-.1528	.0995	.0437	20	1.0244	.4614	-.2324	.0607	.0602
25	.8489	.4438	-.1798	.1028	.0553	25	1.1745	.6403	-.2856	.0706	.0826

CONTINUED

TABLE 3 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

 $\frac{x}{c} = 0.06$
 $\frac{y}{c} = 0.60$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-.7669	.2102	.0205	-.0889	.0154	-10	-.8057	.2867	.0352	-.0957	.0261
-7	-.6592	.1645	-.0288	-.0766	.0111	-7	-.7421	.2347	.0352	-.0854	.0201
-5	-.5497	.1352	-.0370	-.0640	.0081	-5	-.6573	.2002	.0304	-.0741	.0161
-3	-.4457	.1188	-.0361	-.0517	.0063	-3	-.5343	.1741	.0211	-.0600	.0131
-2	-.3918	.1114	-.0328	-.0451	.0060	-2	-.4771	.1586	.0070	-.0528	.0122
-1	-.3472	.1096	-.0312	-.0394	.0058	-1	-.3986	.1512	.0000	-.0436	.0115
0	-.3045	.1040	-.0247	-.0334	.0049	0	-.3392	.1429	-.0047	-.0360	.0105
1	-.2507	.1935	-.0288	-.0283	.0053	1	-.2650	.1408	-.0047	-.0288	.0105
2	-.2080	.1021	-.0165	-.0222	.0058	2	-.2120	.1355	-.0070	-.0223	.0105
3	-.1578	.1935	-.0247	-.0165	.0059	3	-.1378	.1408	-.0117	-.0137	.0115
5	-.0446	.1916	-.0247	-.0042	.0068	5	.0318	.1461	-.0352	.0069	.0127
7	.0780	.1935	-.0205	.0099	.0068	7	.1802	.1461	-.0399	.0223	.0123
10	.3751	.1426	-.0575	.0424	.0101	10	.5004	.1773	-.0751	.0583	.0202
15	.6221	.2410	-.1035	.0766	.0245	15	.8163	.2763	-.1313	.0978	.0357
20	.6982	.3179	-.1355	.0868	.0331	20	.9223	.3806	-.1900	.1105	.0496
25	.7149	.3944	-.1643	.0880	.0423	25	.9753	.4849	-.2180	.1153	.0616
M = 0.80						M = 1.00					
-10	-.7668	.2411	-.0006	-.0924	.0195	-10	-.7473	.3097	.0247	-.0864	.0286
-7	-.7417	.1916	-.0028	-.0854	.0143	-7	-.6295	.2498	-.0009	-.0710	.0224
-5	-.6637	.1607	-.0083	-.0755	.0109	-5	-.5422	.2187	-.0158	-.0598	.0192
-3	-.5405	.1385	-.0083	-.0610	.0086	-3	-.4224	.1897	-.0337	-.0457	.0164
-2	-.4777	.1297	-.0055	-.0537	.0077	-2	-.3574	.1807	-.0422	-.0378	.0157
-1	-.4249	.1237	-.0028	-.0468	.0070	-1	-.2944	.1748	-.0490	-.0302	.0157
0	-.3696	.1174	.0028	-.0403	.0062	0	-.2234	.1698	-.0539	-.0230	.0154
1	-.3143	.1156	.0028	-.0340	.0062	1	-.1624	.1647	-.0584	-.0161	.0154
2	-.2615	.1114	.0055	-.0271	.0061	2	-.1015	.1647	-.0593	-.0092	.0161
3	-.1961	.1101	.0055	-.0199	.0064	3	-.0406	.1647	-.0642	-.0016	.0161
5	-.0754	.1051	.0055	-.0069	.0070	5	.1015	.1667	-.0651	.0138	.0162
7	.0779	.1114	.0055	.0104	.0080	7	.2640	.1708	-.0741	.0315	.0178
10	.3897	.1423	-.0367	.0448	.0129	10	.5341	.1947	-.1033	.0624	.0236
15	.6763	.2386	-.1073	.0824	.0293	15	.8630	.3097	-.1685	.1019	.0406
20	.7467	.3153	-.1446	.0905	.0384	20	1.0965	.4593	-.2291	.1321	.0633
25	.7794	.4018	-.1613	.0936	.0501	25	1.1778	.5992	-.2830	.1413	.0809
M = 0.85						M = 1.05					
-10	-.7794	.2496	-.0006	-.0944	.0229	-10	-.7216	.2974	.0216	-.0824	.0283
-7	-.7322	.1405	-.0021	-.0856	.0168	-7	-.6124	.2455	-.0043	-.0685	.0225
-5	-.6967	.1684	.0052	-.0793	.0132	-5	-.5188	.2130	-.0151	-.0568	.0189
-3	-.5857	.1453	.0052	-.0650	.0108	-3	-.4096	.1900	-.0324	-.0436	.0163
-2	-.5196	.1393	.0078	-.0573	.0097	-2	-.3413	.1765	-.0410	-.0353	.0154
-1	-.4511	.1301	.0120	-.0501	.0086	-1	-.2926	.1726	-.0474	-.0300	.0150
0	-.3897	.1231	.0130	-.0424	.0082	0	-.2243	.1726	-.0518	-.0221	.0147
1	-.3307	.1186	.0083	-.0353	.0077	1	-.1580	.1650	-.0573	-.0158	.0302
2	-.2716	.1162	.0105	-.0279	.0077	2	-.0975	.1650	-.0556	-.0085	.0159
3	-.2008	.1150	.0130	-.0210	.0075	3	-.0293	.1630	-.0621	-.0009	.0165
5	-.0685	.1058	.0052	-.0059	.0086	5	.0975	.1630	-.0643	.0145	.0166
7	.0945	.1162	-.0031	.0124	.0090	7	.2574	.1726	-.0733	.0312	.0172
10	.4039	.1464	-.0418	.0464	.0157	10	.5168	.2052	-.1035	.0600	.0242
15	.7086	.2416	-.1097	.0869	.0320	15	.8387	.3165	-.1704	.0978	.0407
20	.7889	.3205	-.1515	.0955	.0425	20	1.0766	.4757	-.2330	.1285	.0623
25	.8148	.4180	-.1751	.0982	.0542	25	1.2287	.6370	-.2933	.1483	.0877
M = 0.90						M = 1.10					
-10	-.7798	.2629	.0123	-.0952	.0254	-10	-.6935	.2858	.0228	-.0801	.0292
-7	-.7375	.2137	.0173	-.0876	.0197	-7	-.5885	.2305	-.0021	-.0661	.0238
-5	-.7174	.1863	.0370	-.0822	.0156	-5	-.4967	.2028	-.0166	-.0555	.0209
-3	-.6127	.1589	.0320	-.0492	.0124	-3	-.3936	.1751	-.0311	-.0425	.0185
-2	-.5414	.1446	.0247	-.0598	.0112	-2	-.3299	.1696	-.0373	-.0349	.0170
-1	-.4615	.1337	.0257	-.0508	.0104	-1	-.2699	.1659	-.0436	-.0282	.0161
0	-.4011	.1315	.0271	-.0443	.0098	0	-.2212	.1604	-.0456	-.0218	.0155
1	-.3454	.1261	.0247	-.0375	.0095	1	-.1593	.1567	-.0518	-.0155	.0158
2	-.2785	.1205	.0236	-.0296	.0093	2	-.1031	.1567	-.0518	-.0091	.0163
3	-.2117	.1172	.0173	-.0224	.0088	3	-.0375	.1567	-.0580	-.0018	.0166
5	-.0557	.1183	.0025	-.0051	.0090	5	.1031	.1567	-.0601	.0143	.0169
7	.1381	.1281	-.0173	.0177	.0098	7	.2530	.1677	-.0684	.0306	.0179
10	.4322	.1555	-.0493	.0505	.0168	10	.4967	.2028	-.0954	.0570	.0246
15	.7375	.2466	-.1134	.0901	.0326	15	.8003	.3153	-.1637	.0931	.0402
20	.8355	.3418	-.1676	.1002	.0432	20	1.0346	.4701	-.2281	.1225	.0606
25	.8645	.4405	-.1897	.1038	.0549	25	1.1958	.6453	-.2902	.1435	.0840

TABLE 3 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

 $\frac{t}{c} = 0.06$
 $\frac{x_n}{c} = 0.80$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.9310	.2262	.1026	-.1038	.0188	-10	-1.0129	.3115	.1557	-.1146	.0321
-7	-.7814	.1675	.0595	-.0862	.0130	-7	-.8636	.2412	.1344	-.0959	.0230
-5	-.6580	.1398	.0595	-.0729	.0097	-5	-.7570	.2045	.1203	-.0821	.0185
-3	-.5347	.1234	.0529	-.0590	.0077	-3	-.6184	.1729	.1014	-.0656	.0150
-2	-.4786	.1159	.0595	-.0523	.0068	-2	-.5395	.1574	.0919	-.0573	.0140
-1	-.4262	.1103	.0595	-.0460	.0062	-1	-.4585	.1469	.0849	-.0480	.0132
0	-.3739	.1047	.0645	-.0399	.0055	0	-.3860	.1363	.0802	-.0404	.0124
1	-.3178	.0995	.0579	-.0342	.0052	1	-.3092	.1333	.0778	-.0328	.0121
2	-.2617	.0957	.0612	-.0281	.0051	2	-.2346	.1290	.0755	-.0235	.0121
3	-.2056	.0920	.0637	-.0224	.0049	3	-.1493	.1258	.0637	-.0148	.0121
5	-.0673	.0864	.0579	-.0073	.0055	5	.0213	.1154	.0566	.0041	.0102
7	.0636	.0920	.0546	.0082	.0049	7	.2239	.1207	.0212	.0262	.0107
10	.3178	.1286	.0166	.0366	.0083	10	.5224	.1668	-.0354	.0597	.0197
15	.6057	.2318	-.0661	.0750	.0232	15	.8743	.2883	-.1203	.1035	.0384
20	.7104	.3070	-.1258	.0877	.0346	20	.9233	.3723	-.1816	.1115	.0491
25	.7216	.3825	-.1448	.0883	.0440	25	.9916	.4898	-.2217	.1177	.0633
M = 0.80						M = 1.00					
-10	-.9365	.2564	.0896	-.1065	.0227	-10	-.9397	.3216	.1401	-.1055	.0337
-7	-.8808	.1992	.0845	-.0958	.0160	-7	-.7967	.2513	.1152	-.0886	.0253
-5	-.7467	.1617	.0823	-.0815	.0119	-5	-.6823	.2110	.1017	-.0754	.0206
-3	-.6024	.1369	.0806	-.0651	.0094	-3	-.5516	.1808	.0859	-.0602	.0176
-2	-.5391	.1283	.0857	-.0577	.0082	-2	-.4740	.1657	.0791	-.0512	.0166
-1	-.4758	.1195	.0828	-.0549	.0074	-1	-.4086	.1557	.0723	-.0440	.0158
0	-.4126	.1121	.0857	-.0438	.0066	0	-.3432	.1457	.0655	-.0364	.0154
1	-.3493	.1058	.0840	-.0364	.0063	1	-.2656	.1397	.0632	-.0284	.0146
2	-.2860	.0995	.0874	-.0295	.0059	2	-.2043	.1356	.0610	-.0205	.0143
3	-.2177	.0959	.0851	-.0221	.0059	3	-.1144	.1305	.0543	-.0116	.0131
5	-.0607	.0845	.0790	-.0057	.0057	5	.0695	.1305	.0293	.0096	.0127
7	.0911	.0921	.0739	.0106	.0059	7	.2656	.1356	.0045	.0304	.0135
10	.3999	.1357	.0157	.0442	.0131	10	.5312	.1828	-.0520	.0598	.0225
15	.6707	.2240	-.0784	.0815	.0296	15	.8825	.3064	-.1423	.1025	.0428
20	.7669	.3063	-.1355	.0917	.0393	20	1.1318	.4621	-.2056	.1342	.0633
25	.7846	.3946	-.1556	.0938	.0498	25	1.1890	.6029	-.2756	.1418	.0770
M = 0.85						M = 1.05					
-10	-.9389	.2631	.0946	-.1081	.0249	-10	-.9104	.3185	.1389	-.1010	.0324
-7	-.8890	.2080	.1020	-.0981	.0175	-7	-.7692	.2451	.1129	-.0845	.0243
-5	-.7891	.1695	.0920	-.0869	.0133	-5	-.6632	.2064	.0976	-.0717	.0198
-3	-.6346	.1414	.0873	-.0689	.0107	-3	-.5298	.1756	.0846	-.0572	.0167
-2	-.5637	.1310	.0920	-.0604	.0098	-2	-.4709	.1640	.0803	-.0492	.0157
-1	-.4992	.1227	.0962	-.0531	.0087	-1	-.4003	.1544	.0716	-.0422	.0145
0	-.4278	.1134	.0941	-.0454	.0079	0	-.3336	.1468	.0673	-.0349	.0138
1	-.3565	.1065	.0857	-.0373	.0077	1	-.2669	.1409	.0629	-.0267	.0132
2	-.2855	.1005	.0879	-.0296	.0074	2	-.1766	.1352	.0629	-.0184	.0132
3	-.2187	.0970	.0831	-.0223	.0070	3	-.0981	.1273	.0521	-.0092	.0132
5	-.0570	.0901	.0804	-.0050	.0074	5	.0981	.1352	.0230	.0130	.0129
7	.1188	.0958	.0725	.0138	.0068	7	.2747	.1448	-.0043	.0308	.0145
10	.4207	.1379	.0158	.0465	.0142	10	.5102	.1852	-.0521	.0575	.0227
15	.7131	.2327	-.0894	.0854	.0300	15	.8516	.3088	-.1410	.0984	.0403
20	.8010	.3157	-.1457	.0958	.0407	20	1.1027	.4766	-.2170	.1308	.0631
25	.8248	.4091	-.1672	.0981	.0522	25	1.2558	.6465	-.2822	.1495	.0852
M = 0.90						M = 1.10					
-10	-.9635	.2821	.1215	-.1110	.0278	-10	-.8868	.2989	.1356	-.0983	.0319
-7	-.9075	.2259	.1338	-.1004	.0200	-7	-.7397	.2321	.1148	-.0818	.0243
-5	-.8157	.1873	.1264	-.0885	.0156	-5	-.6340	.1949	.1002	-.0690	.0199
-3	-.6790	.1544	.1215	-.0722	.0122	-3	-.5208	.1670	.0856	-.0562	.0170
-2	-.5849	.1432	.1056	-.0627	.0111	-2	-.4529	.1559	.0793	-.0485	.0161
-1	-.5154	.1322	.1056	-.0548	.0101	-1	-.3963	.1466	.0751	-.0409	.0146
0	-.4437	.1212	.1041	-.0464	.0092	0	-.3208	.1393	.0668	-.0336	.0137
1	-.3697	.1156	.0991	-.0392	.0087	1	-.2453	.1362	-.0380	-.0131	.0132
2	-.3025	.1058	.0966	-.0308	.0082	2	-.1736	.1243	.0605	-.0177	.0132
3	-.2084	.0993	.0868	-.0210	.0096	3	-.0793	.1206	.0480	-.0076	.0132
5	-.0426	.0937	.0768	-.0033	.0087	5	.1019	.1243	.0251	.0119	.0126
7	.1613	.1080	.0471	.0185	.0087	7	.2642	.1428	-.0042	.0296	.0137
10	.4795	.1488	-.0074	.0537	.0169	10	.4944	.1857	-.0501	.0553	.0214
15	.7955	.2481	-.0942	.0935	.0327	15	.8114	.3155	-.1356	.0931	.0380
20	.8448	.3361	-.1611	.1008	.0431	20	1.0567	.4732	-.2087	.1243	.0597
25	.8851	.4408	-.1883	.1052	.0561	25	1.2265	.6589	-.2713	.1450	.0834

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Concluded

$$\frac{t}{c} = 0.06$$

$$\frac{x}{c} = 1.00$$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-1.1030	.2797	.2315	-.1292	.0256	-10	-1.1309	.3295	.3162	-.1319	.0356
-7	-.9272	.2030	.1902	-.1080	.0178	-7	-.9602	.2507	.2879	-.1115	.0263
-5	-.7852	.1645	.1762	-.0932	.0138	-5	-.8322	.2036	.2737	-.0963	.0198
-3	-.6580	.1454	.1820	-.0786	.0110	-3	-.6828	.1669	.2407	-.0784	.0165
-2	-.5982	.1368	.1736	-.0717	.0106	-2	-.5975	.1564	.2360	-.0691	.0149
-1	-.5234	.1279	.1902	-.0620	.0098	-1	-.5121	.1460	.2322	-.0608	.0141
0	-.4674	.1215	.1736	-.0566	.0084	0	-.4310	.1353	.2218	-.0528	.0137
1	-.3926	.1148	.1654	-.0496	.0080	1	-.3542	.1270	.2171	-.0439	.0129
2	-.3365	.1122	.1654	-.0426	.0077	2	-.2646	.1197	.2077	-.0345	.0121
3	-.2617	.1058	.1612	-.0339	.0059	3	-.1707	.1197	.1935	-.0245	.0116
5	-.0935	.1002	.1364	-.0160	.0065	5	.0304	.1122	.1465	-.0070	.0108
7	.0636	.1047	.1199	.0024	.0062	7	.2603	.1197	.0821	.0245	.0106
10	.3365	.1462	.0579	.0333	.0077	10	.5719	.1752	-.0047	.0604	.0190
15	.6132	.2827	-.0703	.0705	.0214	15	.8621	.2896	-.0897	.0984	.0367
20	.7478	.3346	-.1539	.0889	.0336	20	.9602	.3873	-.1983	.1115	.0483
25	.7478	.4019	-.1539	.0889	.0423	25	1.0114	.4974	-.2313	.1174	.0622
M = 0.80						M = 1.00					
-10	-1.1061	.2961	.2324	-.1311	.0280	-10	-1.0835	.3287	.3165	-.1264	.0364
-7	-.9998	.2227	.2100	-.1143	.0202	-7	-.9199	.2484	.2894	-.1068	.0269
-5	-.8479	.1830	.1987	-.0962	.0159	-5	-.7768	.2050	.2622	-.0910	.0219
-3	-.6834	.1506	.1960	-.0778	.0123	-3	-.6337	.1719	.2487	-.0751	.0179
-2	-.6176	.1420	.1960	-.0696	.0109	-2	-.5560	.1568	.2397	-.0662	.0170
-1	-.5366	.1293	.1932	-.0618	.0101	-1	-.4906	.1498	.2352	-.0585	.0159
0	-.4682	.1233	.1914	-.0545	.0091	0	-.4007	.1357	.2216	-.0496	.0147
1	-.3923	.1169	.1876	-.0467	.0086	1	-.3107	.1267	.2125	-.0400	.0135
2	-.3164	.1109	.1903	-.0389	.0084	2	-.2453	.1206	.1963	-.0314	.0116
3	-.2405	.1045	.1792	-.0303	.0083	3	-.1104	.1186	.1718	-.0179	.0111
5	-.0506	.0921	.1596	-.0106	.0083	5	.1022	.1267	.1158	.0063	.0109
7	.1139	.1020	.1405	.0082	.0083	7	.3026	.1317	.0660	.0284	.0119
10	.4075	.1420	.0672	.0418	.0128	10	.5560	.1881	-.0091	.0582	.0209
15	.6707	.2415	-.0784	.0778	.0287	15	.9036	.3156	-.1158	.1016	.0393
20	.7973	.3285	-.1567	.0934	.0392	20	1.1448	.4765	-.1990	.1326	.0613
25	.8099	.4159	-.1708	.0950	.0504	25	1.2061	.6112	-.2894	.1422	.0761
M = 0.85						M = 1.05					
-10	-1.1053	.3016	.2444	-.1327	.0319	-10	-1.0599	.3176	.3082	-.1201	.0350
-7	-1.0173	.2327	.2366	-.1181	.0230	-7	-.8872	.2452	.2779	-.1019	.0271
-5	-.8605	.1859	.2130	-.0992	.0175	-5	-.7616	.2028	.2648	-.0864	.0204
-3	-.6893	.1507	.1982	-.0792	.0136	-3	-.6242	.1727	.2432	-.0711	.0164
-2	-.6061	.1391	.1972	-.0704	.0122	-2	-.5614	.1584	.2388	-.0642	.0152
-1	-.5348	.1274	.1972	-.0623	.0111	-1	-.4750	.1476	.2301	-.0553	.0137
0	-.4635	.1215	.2008	-.0538	.0098	0	-.3886	.1352	.2171	-.0457	.0126
1	-.3874	.1134	.1903	-.0462	.0092	1	-.2866	.1294	.1910	-.0340	.0116
2	-.3090	.1074	.1919	-.0377	.0083	2	-.1767	.1227	.1737	-.0232	.0125
3	-.2211	.0994	.1787	-.0277	.0079	3	-.0785	.1244	.1476	-.0124	.0119
5	-.0380	.0946	.1630	-.0092	.0077	5	.1099	.1274	.1086	.0083	.0122
7	.1474	.1041	.1367	.0115	.0074	7	.2984	.1419	.0565	.0295	.0145
10	.4302	.1450	.1157	.0442	.0151	10	.5260	.1922	-.0130	.0556	.0221
15	.7131	.2501	-.0904	.0831	.0319	15	.8558	.3176	-.1129	.0966	.0400
20	.8919	.3321	-.1683	.0977	.0435	20	1.1149	.4866	-.1997	.1293	.0628
25	.8533	.4314	-.1893	.0992	.0558	25	1.2562	.6603	-.2779	.1480	.0852
M = 0.90						M = 1.10					
-10	-1.1342	.3185	.2875	-.1368	.0353	-10	-1.0038	.2879	.2933	-.1143	.0352
-7	-1.0177	.2414	.2728	-.1190	.0254	-7	-.8523	.2216	.2765	-.0965	.0272
-5	-.8966	.1995	.2628	-.1030	.0200	-5	-.7235	.1807	.2555	-.0827	.0225
-3	-.7083	.1621	.2330	-.0816	.0153	-3	-.5871	.1528	.2388	-.0683	.0192
-2	-.6187	.1477	.2232	-.0718	.0139	-2	-.5151	.1388	.2346	-.0598	.0170
-1	-.5425	.1390	.2232	-.0635	.0129	-1	-.4356	.1276	.2220	-.0503	.0159
0	-.4662	.1311	.2181	-.0559	.0116	0	-.3523	.1193	.2011	-.0414	.0147
1	-.3676	.1201	.2132	-.0453	.0108	1	-.2348	.1108	.1843	-.0291	.0136
2	-.2914	.1145	.2052	-.0370	.0099	2	-.1326	.1072	.1592	-.0178	.0132
3	-.1973	.1092	.1834	-.0265	.0092	3	-.0568	.1072	.1383	-.0092	.0129
5	.0000	.0923	.1587	-.0065	.0103	5	.1326	.1201	.0964	.0107	.0135
7	.2017	.1125	.1141	.0171	.0087	7	.2992	.1398	.0503	.0294	.0156
10	.5156	.1621	.0298	.0537	.0174	10	.5114	.1900	-.0126	.0536	.0228
15	.7845	.2580	-.0992	.0899	.0330	15	.8371	.3195	-.1131	.0935	.0404
20	.8877	.3528	-.1834	.1023	.0438	20	1.0795	.4731	-.1927	.1241	.0614
25	.9146	.4564	-.2083	.1055	.0565	25	1.2424	.6687	-.2723	.1450	.0846

TABLE 4. -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL -

 $\frac{x}{c} = 0.04$ $\frac{z}{c} = \text{NONE}$

α , deg	C_L	C_D	C_H	C_L	C_H	α , deg	C_L	C_D	C_H	C_L	C_H
M = 0.60						M = 0.95					
-10	-.7045	.1205	.0119	-.0840	.0130	-7	-.6786	.1024	.0766	-.0769	.0104
-7	-.5300	.0583	-.0305	-.0605	.0060	-5	-.5096	.0587	.0401	-.0582	.0062
-5	-.3835	.0310	-.0200	-.0431	.0029	-3	-.3234	.0277	.0168	-.0359	.0034
-3	-.2370	.0169	-.0091	-.0258	.0020	-2	-.2131	.0187	.0094	-.0238	.0018
-2	-.1591	.0138	-.0058	-.0167	.0015	-1	-.0906	.0141	.0024	-.0104	.0013
-1	-.0819	.0125	-.0021	-.0078	.0010	0	.0073	.0124	.0049	.0020	.0012
0	-.0043	.0114	-.0013	.0020	.0011	1	.1200	.0141	.0038	.0149	.0019
1	.0668	.0154	.0035	.0108	.0016	2	.2278	.0208	-.0063	.0273	.0032
2	.1508	.0209	.0104	.0206	.0023	3	.3258	.0268	-.0106	.0387	.0046
3	.2262	.0254	.0129	.0291	.0032	5	.5341	.0533	-.0428	.0630	.0094
5	.3813	.0437	.0226	.0543	.0066						
7	.5278	.0742	.0187	.0667	.0116						
10	.6786	.1351	-.0229	.0899	.0210						
15	.7282	.2235	-.0742	.1046	.0530						
20	.7368	.3072	-.0826	.1000	.0442						
25	.7562	.3941	-.0908	.1003	.0537						
M = 0.80						M = 1.00					
-10	-.7878	.1411	.0006	-.0904	.0133	-7	-.5785	.0911	.0679	-.0654	.0098
-7	-.6108	.0751	-.0179	-.0678	.0069	-5	-.4376	.0565	.0431	-.0488	.0063
-5	-.4574	.0410	-.0219	-.0501	.0037	-3	-.2643	.0301	.0215	-.0297	.0034
-3	-.2803	.0207	-.0121	-.0284	.0016	-2	-.1733	.0232	.0136	-.0191	.0025
-2	-.1770	.0149	-.0091	-.0177	.0012	-1	-.0802	.0192	.0052	-.0082	.0020
-1	-.0896	.0112	-.0063	-.0074	.0009	0	.0173	.0184	.0017	.0031	.0019
0	.0030	.0105	.0013	.0027	.0008	1	.1148	.0192	-.0048	.0136	.0024
1	.0885	.0123	.0084	.0130	.0014	2	.2188	.0245	-.0159	.0255	.0035
2	.1859	.0159	.0114	.0237	.0024	3	.2990	.0304	-.0241	.0347	.0049
3	.2921	.0207	.0190	.0358	.0038	5	.4615	.0533	-.0460	.0534	.0085
5	.4751	.0406	.0236	.0566	.0075						
7	.6256	.0715	.0185	.0750	.0124						
10	.7347	.1313	-.0308	.0913	.0214						
15	.7878	.1839	-.0818	.1003	.0342						
M = 0.85						M = 1.05					
-10	-.8209	.1536	.0063	-.0948	.0156	-7	-.5987	.0957	.0684	-.0677	.0102
-7	-.6413	.0840	-.0110	-.0719	.0081	-5	-.4507	.0587	.0453	-.0500	.0063
-5	-.5003	.0476	-.0166	-.0543	.0042	-3	-.2646	.0336	.0206	-.0294	.0032
-3	-.3096	.0228	-.0187	-.0319	.0019	-2	-.1816	.0267	.0121	-.0197	.0022
-2	-.1990	.0160	-.0113	-.0195	.0013	-1	-.0830	.0212	.0035	-.0088	.0018
-1	-.1023	.0112	-.0050	-.0090	.0009	0	.0135	.0210	-.0003	.0024	.0014
0	-.0636	.0112	-.0070	-.0057	.0008	1	.1166	.0229	-.0044	.0145	.0021
1	.0912	.0119	.0100	.0128	.0014	2	.2175	.0295	-.0150	.0262	.0031
2	.2018	.0153	.0132	.0245	.0025	3	.2982	.0364	-.0241	.0361	.0045
3	.3068	.0207	.0225	.0367	.0037	5	.4686	.0598	-.0455	.0553	.0081
5	.5058	.0448	.0152	.0600	.0077						
7	.6551	.0755	.0033	.0813	.0127						
M = 0.90						M = 1.10					
-7	-.6677	.0949	.0285	-.0765	.0088	-7	-.5740	.0886	.0676	-.0642	.0091
-5	-.5144	.0540	.0072	-.0583	.0050	-5	-.4208	.0549	.0421	-.0471	.0053
-3	-.3170	.0230	-.0154	-.0345	.0021	-3	-.2590	.0324	.0203	-.0275	.0026
-2	-.2001	.0150	-.0146	-.0209	.0014	-2	-.1748	.0257	.0117	-.0188	.0017
-1	-.1065	.0115	-.0036	-.0116	.0010	-1	-.0798	.0223	.0051	-.0085	.0013
0	.0000	.0099	.0000	.0014	.0009	0	.0065	.0204	-.0010	.0023	.0011
1	.1117	.0105	.0094	.0138	.0016	1	.1144	.0239	-.0060	.0149	.0016
2	.2208	.0150	.0166	.0256	.0025	2	.2007	.0300	-.0140	.0246	.0025
3	.3326	.0220	.0115	.0410	.0040	3	.2870	.0382	-.0244	.0349	.0038
5	.5430	.0498	-.0142	.0637	.0087	5	.4445	.0618	-.0434	.0532	.0071

TABLE 4. -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL -- Continued

 $\frac{t}{c} = 0.04$
 $\frac{x_a}{c} = 0.40$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-.5269	.1957	-.0669	-.0644	.0251	-7	-.6490	.2379	-.0525	-.0789	.0290
-7	-.6194	.1613	-.0823	-.0715	.0213	-5	-.5755	.2030	-.0656	-.0697	.0255
-5	-.5377	.1323	-.0981	-.0602	.0173	-3	-.5070	.1746	-.0695	-.0622	.0223
-3	-.4151	.1111	-.1018	-.0431	.0141	-2	-.4555	.1626	-.0744	-.0554	.0217
-2	-.3549	.1047	-.0978	-.0356	.0135	-1	-.4090	.1506	-.0765	-.0492	.0204
-1	-.3011	.1004	-.0896	-.0277	.0130	0	-.3551	.1415	-.0771	-.0409	.0183
0	-.2387	.1004	-.0860	-.0202	.0130	1	-.2449	.1415	-.0985	-.0288	.0183
1	-.1850	.1004	-.0838	-.0134	.0130	2	-.1592	.1385	-.0935	-.0191	.0186
2	-.1247	.1031	-.0816	-.0057	.0134	3	-.0759	.1391	-.0946	-.0098	.0188
3	-.0602	.1058	-.0756	.0016	.0138	5	.0612	.1476	-.0963	.0069	.0206
5	.0516	.1164	-.0689	.0153	.0149	7	.2204	.1578	-.1001	.0269	.0222
7	.1635	.1243	-.0551	.0294	.0159	10	.6123	.1897	-.1048	.0706	.0277
10	.5398	.1533	-.0462	.0708	.0227						
15	.7420	.2380	-.0578	.0992	.0356						
20	.7614	.3141	-.0690	.1011	.0455						
25	.7850	.4104	-.0779	.1028	.0556						
M = 0.80						M = 1.00					
-10	-.5674	.2211	-.0691	-.0722	.0280	-7	-.5086	.2241	-.0645	-.0612	.0266
-7	-.6411	.1820	-.1231	-.0812	.0242	-5	-.4221	.1964	-.0839	-.0507	.0238
-5	-.6043	.1559	-.1151	-.0742	.0194	-3	-.3247	.1756	-.1004	-.0387	.0221
-3	-.5616	.1304	-.1026	-.0669	.0165	-2	-.2705	.1676	-.1098	-.0325	.0215
-2	-.4938	.1196	-.0998	-.0581	.0154	-1	-.2164	.1623	-.1158	-.0263	.0199
-1	-.4274	.1124	-.0964	-.0485	.0148	0	-.1537	.1554	-.1232	-.0187	.0198
0	-.3537	.1087	-.0868	-.0387	.0145	1	-.0866	.1543	-.1287	-.0105	.0193
1	-.2800	.1087	-.0813	-.0297	.0145	2	-.0108	.1549	-.1333	-.0008	.0193
2	-.2019	.1087	-.0809	-.0210	.0145	3	.0563	.1623	-.1329	.0066	.0200
3	-.1253	.1116	-.0762	-.0121	.0147	5	.1840	.1730	-.1364	.0215	.0223
5	.0000	.1196	-.0686	.0029	.0156	7	.3030	.1783	-.1285	.0363	.0235
7	.1444	.1268	-.0601	.0206	.0167	10	.6277	.1794	-.1145	.0722	.0294
10	.5321	.1551	-.0521	.0655	.0250						
M = 0.85						M = 1.05					
-7	-.6544	.1969	-.1065	-.0848	.0252	-7	-.5152	.2313	-.0665	-.0641	.0284
-5	-.6144	.1664	-.1076	-.0773	.0204	-5	-.4256	.2044	-.0877	-.0527	.0245
-3	-.5661	.1392	-.1004	-.0685	.0172	-3	-.3360	.1845	-.1039	-.0406	.0225
-2	-.5343	.1290	-.0945	-.0635	.0162	-2	-.2778	.1763	-.1118	-.0340	.0221
-1	-.4763	.1188	-.0942	-.0547	.0154	-1	-.2240	.1702	-.1205	-.0267	.0217
0	-.3866	.1147	-.0904	-.0431	.0149	0	-.1568	.1658	-.1280	-.0192	.0215
1	-.2968	.1120	-.0866	-.0325	.0149	1	-.0896	.1630	-.1362	-.0110	.0204
2	-.2209	.1120	-.0832	-.0235	.0149	2	-.0045	.1653	-.1415	-.0007	.0204
3	-.1450	.1147	-.0798	-.0147	.0152	3	.0560	.1713	-.1370	.0071	.0206
5	.0000	.1222	-.0775	.0021	.0162	5	.1882	.1851	-.1407	.0226	.0233
7	.1450	.1304	-.0705	.0199	.0172	7	.3248	.2005	-.1393	.0387	.0246
10	.5288	.1562	-.0606	.0643	.0247						
15	.6889	.2478	-.0373	.0974	.0385						
M = 0.90						M = 1.10					
-7	-.7010	.2171	-.0671	-.0896	.0268	-7	-.4960	.2254	-.0638	-.0610	.0263
-5	-.6751	.1884	-.0575	-.0841	.0237	-5	-.4205	.2015	-.0805	-.0515	.0236
-3	-.6205	.1616	-.0548	-.0750	.0216	-3	-.3235	.1803	-.0993	-.0393	.0216
-2	-.5608	.1462	-.0596	-.0683	.0237	-2	-.2674	.1750	-.1052	-.0326	.0212
-1	-.5063	.1335	-.0631	-.0597	.0188	-1	-.2156	.1681	-.1153	-.0262	.0197
0	-.4206	.1238	-.0729	-.0486	.0158	0	-.1531	.1644	-.0929	-.0190	.0197
1	-.3220	.1220	-.0744	-.0362	.0159	1	-.0863	.1617	-.1312	-.0105	.0197
2	-.2467	.1207	-.0665	-.0272	.0157	2	-.0194	.1617	-.1367	-.0020	.0197
3	-.1584	.1213	-.0697	-.0177	.0157	3	.0496	.1697	-.1338	.0061	.0198
5	.0000	.1296	-.0803	.0018	.0173	5	.1725	.1829	-.1364	.0211	.0215
7	.1688	.1373	-.0784	.0219	.0180	7	.3019	.1989	-.1347	.0371	.0228
10	.5712	.1705	-.0798	.0672	.0265						

TABLE 4. - THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

 $\frac{t}{c} = 0.04$ $\frac{x_a}{c} = 0.60$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.8319	.2518	-.0047	-.1019	.0302	-3	-.6096	.1868	-.0350	-.0703	.0208
-7	-.8427	.1961	-.0322	-.0990	.0238	-2	-.5408	.1716	-.0394	-.0617	.0202
-5	-.7023	.1535	-.0572	-.0819	.0187	-1	-.4670	.1596	-.0470	-.0535	.0183
-3	-.5402	.1244	-.0541	-.0613	.0148	0	-.3687	.1475	-.0567	-.0421	.0177
-2	-.4754	.1137	-.0469	-.0531	.0137	1	-.2753	.1475	-.0568	-.0308	.0177
-1	-.4192	.1078	-.0435	-.0452	.0130	2	-.1819	.1475	-.0619	-.0199	.0174
0	-.3565	.1031	-.0357	-.0374	.0126	3	-.0983	.1475	-.0616	-.0103	.0181
1	-.2917	.1005	-.0350	-.0295	.0123	5	.0910	.1475	-.0592	.0112	.0181
2	-.2269	.1005	-.0302	-.0216	.0122	7	.3613	.1656	-.0702	.0425	.0222
3	-.1556	.1005	-.0234	-.0148	.0122						
5	.0000	.0999	-.0165	.0043	.0124						
7	.2161	.1094	-.0115	.0288	.0139						
10	.5597	.1535	-.0304	.0695	.0225						
15	.7347	.2413	-.0550	.0960	.0356						
20	.7779	.3199	-.0751	.1000	.0452						
25	.7930	.4177	-.0857	.1033	.0590						
M = 0.80						M = 1.00					
-5	-.7816	.1776	-.0667	-.0898	.0218	-5	-.5715	.2132	-.0537	-.0654	.0239
-3	-.6661	.1427	-.0561	-.0746	.0172	-3	-.4716	.1854	-.0655	-.0537	.0216
-2	-.5921	.1325	-.0506	-.0665	.0159	-2	-.4107	.1726	-.0719	-.0465	.0196
-1	-.5122	.1230	-.0426	-.0573	.0148	-1	-.3412	.1581	-.0787	-.0382	.0187
0	-.4293	.1158	-.0351	-.0474	.0143	0	-.2716	.1560	-.0847	-.0295	.0180
1	-.3553	.1114	-.0255	-.0380	.0137	1	-.1847	.1528	-.0861	-.0201	.0178
2	-.2813	.1078	-.0239	-.0290	.0134	2	-.1152	.1507	-.0831	-.0119	.0178
3	-.2072	.1063	-.0143	-.0207	.0133	3	-.0435	.1512	-.0813	-.0033	.0182
5	-.0296	.1048	-.0064	.0009	.0132	5	.1152	.1528	-.0734	.0148	.0182
7	.2398	.1121	-.0130	.0314	.0148	7	.3455	.1635	-.0751	.0412	.0220
10	.5921	.1543	-.0330	.0716	.0245						
M = 0.85						M = 1.05					
-3	-.6956	.1554	-.0473	-.0790	.0178	-5	-.5938	.2212	-.0550	-.0681	.0244
-2	-.6291	.1391	-.0439	-.0704	.0164	-3	-.4948	.1930	-.0661	-.0561	.0223
-1	-.5377	.1288	-.0428	-.0599	.0153	-2	-.4273	.1820	-.0714	-.0481	.0200
0	-.4434	.1213	-.0340	-.0494	.0146	-1	-.3599	.1720	-.0796	-.0404	.0197
1	-.3603	.1152	-.0300	-.0395	.0139	0	-.2811	.1648	-.0864	-.0307	.0192
2	-.2855	.1118	-.0232	-.0298	.0138	1	-.2024	.1604	-.0863	-.0215	.0190
3	-.2140	.1104	-.0212	-.0200	.0137	2	-.1237	.1587	-.0849	-.0125	.0189
5	-.0139	.1077	-.0104	.0013	.0137	3	-.0517	.1587	-.0818	-.0039	.0190
7	.2577	.1185	-.0185	.0332	.0158	5	.0247	.1615	-.0807	.0159	.0195
10	.6153	.1636	-.0390	.0740	.0240	7	.3644	.1737	-.0733	.0437	.0226
M = 0.90						M = 1.10					
-3	-.7171	.1718	-.0055	-.0821	.0183	-5	-.5738	.2125	-.0513	-.0662	.0234
-2	-.6467	.1545	-.0131	-.0740	.0172	-3	-.4655	.1858	-.0634	-.0534	.0209
-1	-.5659	.1391	-.0202	-.0639	.0158	-2	-.4071	.1752	-.0698	-.0466	.0190
0	-.4563	.1295	-.0222	-.0516	.0150	-1	-.3421	.1661	-.0760	-.0381	.0189
1	-.3781	.1225	-.0170	-.0415	.0143	0	-.2706	.1592	-.0814	-.0297	.0183
2	-.2868	.1187	-.0187	-.0311	.0140	1	-.1949	.1565	-.0813	-.0207	.0183
3	-.1825	.1180	-.0237	-.0198	.0142	2	-.1213	.1539	-.0824	-.0125	.0183
5	.0078	.1180	-.0233	.0034	.0145	3	-.0476	.1544	-.0793	-.0036	.0186
7	.2947	.1372	-.0333	.0342	.0188	5	.1191	.1592	-.0715	.0161	.0190
10	.6519	.1770	-.0427	.0762	.0268	7	.3573	.1714	-.0693	.0434	.0207

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TABLE 4 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL--Continued

$$\frac{x}{c} = 0.04 \quad \frac{x}{c} = 0.80$$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-1.0306	.2865	.0781	-.1281	.0317	-3	-.6668	.1894	.0611	-.0776	.0197
-7	-.9613	.2109	.0330	-.1156	.0235	-2	-.5807	.1761	.0405	-.0678	.0195
-5	-.7838	.1651	.0150	-.0953	.0179	-1	-.4823	.1561	.0389	-.0579	.0177
-3	-.6019	.1341	.0162	-.0742	.0144	0	-.3839	.1470	.0392	-.0472	.0166
-2	-.5283	.1224	.0241	-.0660	.0128	1	-.2854	.1500	.0312	-.0358	.0169
-1	-.4590	.1150	.0272	-.0591	.0118	2	-.1993	.1380	.0377	-.0261	.0159
0	-.3941	.1075	.0339	-.0509	.0111	3	-.0960	.1319	.0386	-.0138	.0151
1	-.3291	.1022	.0418	-.0427	.0105	5	.1698	.1301	.0257	.0153	.0159
2	-.2642	.0991	.0490	-.0345	.0101	7	.4405	.1470	-.0039	.0470	.0204
3	-.1775	.0938	.0509	-.0250	.0096						
5	.0000	.0883	.0562	-.0043	.0095						
7	.2208	.1011	.0439	.0207	.0116						
10	.5586	.1544	-.0107	.0624	.0209						
15	.7621	.2481	-.0576	.0936	.0352						
20	.8141	.3279	-.0876	.1002	.0445						
25	.8184	.4206	-.0963	.1002	.0555						
M = 0.80						M = 1.00					
-3	-.7088	.1509	.0318	-.0839	.0166	-3	-.5786	.1809	.0464	-.0680	.0189
-2	-.6109	.1371	.0362	-.0736	.0151	-2	-.5090	.1647	.0341	-.0599	.0179
-1	-.5338	.1262	.0451	-.0648	.0139	-1	-.4307	.1530	.0296	-.0511	.0167
0	-.4508	.1152	.0512	-.0556	.0127	0	-.3415	.1444	.0291	-.0412	.0156
1	-.3707	.1079	.0577	-.0461	.0119	1	-.2697	.1380	.0301	-.0327	.0150
2	-.2788	.1028	.0618	-.0360	.0113	2	-.1718	.1305	.0283	-.0218	.0145
3	-.1809	.0956	.0611	-.0247	.0108	3	-.0740	.1284	.0312	-.0112	.0143
5	.0178	.0919	.0686	-.0018	.0106	5	.1718	.1316	.0184	.0168	.0156
7	.2699	.1043	.0520	.0274	.0132	7	.4068	.1455	-.0181	.0441	.0194
10	.6050	.1517	-.0178	.0691	.0220						
15	.8126	.2501	-.0780	.0972	.0370						
M = 0.85						M = 1.05					
-3	-.7468	.1591	.0492	-.0868	.0163	-3	-.5991	.1888	.0503	-.0700	.0193
-2	-.6496	.1434	.0419	-.0758	.0154	-2	-.5270	.1722	.0391	-.0617	.0180
-1	-.5441	.1317	.0495	-.0653	.0143	-1	-.4482	.1595	.0343	-.0521	.0173
0	-.4525	.1181	.0529	-.0547	.0129	0	-.3581	.1512	.0344	-.0427	.0156
1	-.3692	.1113	.0572	-.0449	.0118	1	-.2748	.1445	.0348	-.0333	.0151
2	-.2721	.1051	.0586	-.0343	.0118	2	-.1779	.1363	.0317	-.0222	.0143
3	-.1582	.0990	.0589	-.0217	.0111	3	-.0653	.1346	.0372	-.0099	.0146
5	.0389	.0956	.0680	.0013	.0111	5	.1959	.1390	.0176	.0195	.0161
7	.3026	.1113	.0532	.0303	.0143	7	.4144	.1539	-.0154	.0458	.0199
10	.6774	.1659	.0056	.0743	.0236						
M = 0.90						M = 1.10					
-2	-.6602	.1514	.0663	-.0772	.0158	-3	-.5767	.1791	.0498	-.0679	.0183
-1	-.5454	.1399	.0586	-.0653	.0148	-2	-.5008	.1642	.0405	-.0599	.0168
0	-.4540	.1271	.0641	-.0552	.0135	-1	-.4315	.1525	.0375	-.0510	.0157
1	-.3549	.1161	.0622	-.0439	.0127	0	-.3491	.1445	.0357	-.0419	.0147
2	-.2505	.1097	.0573	-.0323	.0123	1	-.2623	.1376	.0374	-.0321	.0141
3	-.1331	.1059	.0527	-.0188	.0120	2	-.1648	.1301	.0335	-.0210	.0097
5	.1018	.1072	.0564	.0073	.0125	3	-.0564	.1295	.0373	-.0086	.0135
7	.3888	.1271	.0259	.0404	.0169	5	.1973	.1365	.0156	.0207	.0152
10	.7150	.1784	-.0131	.0788	.0268	7	.3924	.1509	-.0132	.0441	.0186

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$$\frac{x}{c} = 0.04 \quad \frac{z}{c} = 1.00$$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-1.2125	.3195	.2047	-.1442	.0370	-2	-.6901	.1679	.2128	-.0770	.0184
-7	-1.1475	.2310	.1639	-.1304	.0264	-1	-.5965	.1370	.2146	-.0671	.0175
-5	-.9743	.1725	.1522	-.1100	.0200	0	-.4930	.1455	.2152	-.0570	.0163
-3	-.8098	.1427	.1637	-.0923	.0162	1	-.3870	.1315	.2072	-.0454	.0151
-2	-.7362	.1332	.1702	-.0838	.0149	2	-.2539	.1248	.2020	-.0314	.0143
-1	-.6625	.1246	.1751	-.0749	.0142	3	-.1306	.1206	.1898	-.0181	.0142
0	-.5716	.1171	.1773	-.0657	.0134	5	.1799	.1279	.1330	.0174	.0164
1	-.4980	.1086	.1793	-.0575	.0123	7	.4264	.1315	.0790	.0466	.0190
2	-.4114	.1033	.1872	-.0473	.0115						
3	-.3031	.0927	.1703	-.0348	.0102						
5	-.0996	.0874	.1636	-.0122	.0098						
7	.1689	.0958	.1252	.0184	.0113						
10	.4980	.1512	.0354	.0598	.0212						
15	.7232	.2449	-.0497	.0946	.0354						
20	.7925	.3248	-.0895	.1044	.0444						
25	.8011	.4131	-.0994	.1038	.0548						
M = 0.80						M = 1.00					
-3	-.8315	.1607	.1851	-.0932	.0167	-2	-.6099	.1537	.2019	-.0681	.0166
-2	-.7275	.1424	.1840	-.0824	.0156	-1	-.5228	.1403	.1975	-.0593	.0154
-1	-.6385	.1307	.1859	-.0732	.0147	0	-.4247	.1296	.2025	-.0492	.0142
0	-.5434	.1197	.1903	-.0631	.0135	1	-.3267	.1178	.1914	-.0387	.0133
1	-.4514	.1117	.1914	-.0532	.0127	2	-.2026	.1125	.1833	-.0261	.0127
2	-.3356	.1001	.1804	-.0403	.0117	3	-.0610	.1109	.1643	-.0106	.0131
3	-.2168	.0942	.1773	-.0273	.0108	5	.2026	.1189	.1035	.0203	.0153
5	.0119	.0927	.1654	-.0018	.0111	7	.4030	.1403	.0523	.0446	.0192
7	.2821	.1073	.1459	.0293	.0138						
10	.6058	.1570	.0206	.0714	.0234						
M = 0.85						M = 1.05					
-2	-.7147	.1415	.1836	-.0802	.0157	-2	-.6310	.1607	.2214	-.0704	.0168
-1	-.6201	.1299	.1869	-.0704	.0144	-1	-.5409	.1452	.2137	-.0607	.0158
0	-.5172	.1203	.1889	-.0601	.0133	0	-.4282	.1296	.2099	-.0496	.0141
1	-.4227	.1101	.1888	-.0500	.0126	1	-.3223	.1214	.2047	-.0378	.0133
2	-.2920	.0978	.1770	-.0354	.0112	2	-.1848	.1164	.1872	-.0238	.0131
3	-.1835	.0937	.1753	-.0236	.0106	3	-.0293	.1147	.1585	-.0068	.0137
5	.0556	.0950	.1659	.0027	.0114	5	.2141	.1252	.1035	.0222	.0157
7	.3198	.1114	.1310	.0337	.0151	7	.4124	.1480	.0552	.0462	.0190
10	.6757	.1709	.0531	.0776	.0253						
M = 0.90						M = 1.10					
-2	-.7266	.1555	.2001	-.0811	.0171	-2	-.6033	.1547	.2163	-.0682	.0160
-1	-.6273	.1414	.2053	-.0704	.0160	-1	-.5100	.1382	.2121	-.0583	.0150
0	-.5175	.1317	.1980	-.0597	.0149	0	-.4015	.1249	.2054	-.0472	.0138
1	-.4051	.1221	.1947	-.0476	.0140	1	-.2886	.1158	.1947	-.0352	.0130
2	-.2692	.1093	.1783	-.0325	.0124	2	-.1519	.1121	.1738	-.0204	.0126
3	-.1568	.1054	.1805	-.0208	.0123	3	-.0109	.1121	.1482	-.0040	.0131
5	.1124	.1041	.1598	.0091	.0125	5	.2127	.1238	.0973	.0230	.0151
7	.3790	.1247	.1081	.0434	.0176	7	.3907	.1451	.0565	.0449	.0181
10	.7057	.1781	.0354	.0813	.0220						

TABLE 4. -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

 $\frac{t}{c} = 0.06$ $\frac{x_h}{c} = \text{NONE}$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.6097	.0921	.0268	-.0723	.0066	-10	-.7799	.1763	.1391	-.0897	.0128
-7	-.4552	.0571	-.0073	-.0516	.0019	-7	-.8585	.1044	.0703	-.0611	.0055
-5	-.3200	.0381	-.0135	-.0368	.0003	-5	-.3868	.0681	.0348	-.0427	.0022
-3	-.1848	.0312	-.0061	-.0208	-.0002	-3	-.2233	.0448	.0104	-.0248	.0004
-2	-.1186	.0298	.0061	-.0134	-.0005	-2	-.1447	.0371	.0035	-.0153	.0000
-1	-.0524	.0298	.0000	-.0067	-.0002	0	.0252	.0310	-.0035	.0038	.0000
0	.0028	.0298	-.0012	.0000	-.0002	1	.1006	.0371	-.0104	.0122	.0004
1	.0745	.0326	-.0036	.0087	-.0005	2	.1572	.0371	-.0104	.0225	.0013
2	.1407	.0395	.0097	.0154	-.0005	3	.2642	.0448	-.0174	.0317	.0027
3	.2097	.0447	.0122	.0234	-.0002	5	.4308	.0719	-.0452	.0515	.0068
5	.3366	.0623	.0061	.0395	.0011	7	.5786	.0991	-.0835	.0691	.0121
7	.4665	.0897	-.0012	.0556	.0056	10	.8145	.1725	-.1461	.0969	.0221
10	.6207	.1451	-.0366	.0757	.0136	15	1.0661	.3039	-.1913	.1305	.0424
15	.6897	.2334	-.0989	.0904	.0266	20	1.0912	.4377	-.2261	.1374	.0570
20	.6869	.3040	-.1160	.0884	.0361	25	1.0912	.5459	-.2469	.1305	.0622
25	.7090	.3826	-.1293	.0891	.0457						
M = 0.80						M = 1.00					
-10	-.6748	.1191	.0239	-.0801	.0078	-10	-.7335	.1692	.1268	-.0821	.0126
-7	-.5182	.0688	.0033	-.0588	.0025	-7	-.5282	.1061	.0748	-.0582	.0053
-5	-.3766	.0431	-.0041	-.0407	.0005	-5	-.3894	.0763	.0521	-.0425	.0026
-3	-.2256	.0283	-.0041	-.0249	-.0003	-3	-.2354	.0527	.0267	-.0242	.0009
-2	-.1380	.0248	.0041	-.0149	-.0005	-2	-.1570	.0460	.0167	-.0157	.0004
-1	-.0708	.0239	.0000	-.0072	-.0003	-1	-.0634	.0394	.0067	-.0055	.0004
0	.0149	.0239	.0041	.0023	-.0003	0	.0211	.0394	-.0033	.0044	.0005
1	.0913	.0257	.0049	.0104	-.0003	1	.1177	.0430	-.0167	.0157	.0005
2	.1659	.0283	.0107	.0195	.0000	2	.1932	.0468	-.0267	.0238	.0021
3	.2479	.0367	.0124	.0285	.0015	3	.2717	.0542	-.0374	.0333	.0033
5	.4083	.0531	.0140	.0475	.0043	5	.4286	.0727	-.0601	.0513	.0068
7	.5369	.0807	-.0008	.0633	.0082	7	.5645	.1025	-.0868	.0678	.0118
10	.6953	.1338	-.0239	.0851	.0163	10	.7727	.1656	-.1369	.0916	.0214
15	.7326	.2310	-.1064	.0928	.0300	15	1.0776	.3177	-.2177	.1311	.0437
20	.7606	.3154	-.1344	.0941	.0406	20	1.2285	.4795	-.2370	.1520	.0653
25	.7811	.4043	-.1534	.0964	.0544	25	1.2134	.6131	-.2804	.1495	.0800
M = 0.85						M = 1.05					
-10	-.6979	.1336	.0466	-.0843	.0096	-10	-.7073	.1632	.1256	-.0791	.0130
-7	-.5331	.0759	.0186	-.0617	.0035	-7	-.5181	.1038	.0773	-.0569	.0064
-5	-.3875	.0449	-.0008	-.0434	.0010	-5	-.3726	.0738	.0483	-.0406	.0034
-3	-.2315	.0293	-.0046	-.0255	-.0002	-3	-.2270	.0537	.0290	-.0233	.0034
-2	-.1438	.0242	.0015	-.0157	-.0004	-2	-.1485	.0486	.0193	-.0145	.0030
-1	-.0719	.0224	.0031	-.0077	-.0006	-1	-.0553	.0422	.0065	-.0046	.0012
0	.0210	.0224	.0023	.0026	-.0004	0	.0146	.0422	-.0032	.0039	.0014
1	.1017	.0260	.0046	.0119	-.0004	1	.1077	.0429	-.0161	.0141	.0014
2	.1859	.0302	.0109	.0213	.0004	2	.1805	.0486	-.0257	.0226	.0025
3	.2648	.0354	.0109	.0298	.0018	3	.2678	.0566	-.0387	.0322	.0044
5	.4314	.0552	.0015	.0498	.0049	5	.4133	.0773	-.0579	.0495	.0080
7	.5664	.0845	-.0202	.0677	.0100	7	.5443	.1081	-.0837	.0650	.0122
10	.7225	.1422	-.0481	.0890	.0190	10	.7335	.1703	-.1307	.0880	.0213
15	.7698	.2380	-.1171	.0962	.0322	15	1.0392	.3150	-.2125	.1254	.0428
20	.8136	.3295	-.1521	.0987	.0438	20	1.2487	.5024	-.2737	.1533	.0675
25	.8294	.4200	-.1691	.1009	.0555	25	1.2720	.6485	-.2929	.1590	.0883
M = 0.90						M = 1.10					
-10	-.7316	.1531	.0871	-.0880	.0114	-10	-.6690	.1494	.1202	-.0761	.0144
-7	-.5446	.0887	.0512	-.0643	.0040	-7	-.4962	.0925	.0740	-.0545	.0083
-5	-.4039	.0546	.0264	-.0470	.0012	-5	-.3568	.0672	.0493	-.0392	.0050
-3	-.2533	.0343	.0088	-.0281	-.0002	-3	-.2174	.0486	.0278	-.0227	.0028
-2	-.1539	.0268	.0066	-.0169	-.0006	-2	-.1394	.0418	.0185	-.0142	.0023
-1	-.0629	.0252	.0044	-.0076	-.0006	-1	-.0641	.0383	.0080	-.0054	.0023
0	.0281	.0252	.0000	.0032	-.0006	0	.0139	.0397	-.0031	.0034	.0019
1	.1208	.0252	-.0015	.0133	-.0002	1	.1003	.0418	-.0154	.0129	.0019
2	.2019	.0318	-.0051	.0233	.0008	2	.1728	.0466	-.0216	.0213	.0029
3	.2847	.0399	-.0124	.0329	.0023	3	.2453	.0535	-.0339	.0298	.0047
5	.4403	.0594	-.0227	.0518	.0062	5	.3819	.0775	-.0555	.0463	.0084
7	.5810	.0937	-.0520	.0695	.0110	7	.5212	.1048	-.0802	.0616	.0133
10	.7482	.1523	-.0820	.0916	.0200	10	.7024	.1665	-.1233	.0829	.0217
15	.8806	.2581	-.1318	.1085	.0341	15	.9812	.3070	-.2004	.1184	.0412
20	.8905	.3590	-.1750	.1073	.0456	20	1.1902	.4839	-.2621	.1461	.0648
25	.9071	.4608	-.1904	.1105	.0581	25	1.2739	.6484	-.2929	.1573	.0875

TABLE 4. -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$$\frac{t}{c} = 0.06 \quad \frac{x}{c} = 0.40$$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.5628	.1887	-.0366	-.0686	.0206	-10	-.6610	.2934	-.0209	-.0787	.0311
-7	-.6180	.1614	-.0550	-.0733	.0168	-7	-.5666	.2430	-.0453	-.0665	.0255
-5	-.5242	.1288	-.0750	-.0609	.0130	-5	-.5351	.2122	-.0418	-.0615	.0214
-3	-.4276	.1139	-.0793	-.0465	.0109	-3	-.4407	.1849	-.0453	-.0506	.0185
-2	-.3835	.1073	-.0647	-.0398	.0098	-2	-.3935	.1734	-.0523	-.0449	.0171
-1	-.3311	.1018	-.0763	-.0335	.0100	-1	-.3620	.1618	-.0557	-.0392	.0159
0	-.2759	.1004	-.0750	-.0271	.0099	0	-.2676	.1656	-.0835	-.0277	.0162
1	-.2262	.1032	-.0733	-.0211	.0100	1	-.2046	.1618	-.0871	-.0201	.0162
2	-.1710	.1059	-.0733	-.0147	.0101	2	-.1417	.1579	-.0871	-.0134	.0167
3	-.1241	.1073	-.0714	-.0087	.0106	3	-.0472	.1579	-.0856	-.0048	.0178
5	-.0414	.1181	-.0671	.0023	.0119	5	.0409	.1695	-.0940	.0086	.0186
7	.0607	.1275	-.0622	.0151	.0129	7	.1731	.1812	-.1079	.0233	.0201
10	.3917	.1586	-.0702	.0519	.0158	10	.4911	.2122	-.1358	.0613	.0268
15	.6621	.2362	-.0854	.0860	.0298	15	.8342	.2780	-.1671	.1039	.0395
20	.6869	.3040	-.1177	.0904	.0379	20	1.0073	.4010	-.2054	.1264	.0566
25	.7035	.3854	-.1343	.0914	.0481	25	1.0230	.5170	-.2298	.1253	.0681
M = 0.80						M = 1.00					
-10	-.5690	.2248	-.0351	-.0706	.0233	-10	-.6345	.2957	-.0100	-.0743	.0318
-7	-.6716	.1890	-.0598	-.0819	.0185	-7	-.5167	.2452	-.0415	-.0600	.0261
-5	-.6249	.1597	-.0660	-.0745	.0152	-5	-.4291	.2215	-.0628	-.0482	.0231
-3	-.5690	.1367	-.0561	-.0650	.0121	-3	-.3263	.1991	-.0836	-.0358	.0207
-2	-.5130	.1276	-.0557	-.0573	.0113	-2	-.2719	.1917	-.0909	-.0293	.0201
-1	-.4477	.1220	-.0561	-.0487	.0110	-1	-.2176	.1828	-.1022	-.0222	.0197
0	-.3843	.1183	-.0495	-.0401	.0107	0	-.1632	.1843	-.1103	-.0152	.0195
1	-.3246	.1183	-.0516	-.0328	.0105	1	-.0906	.1798	-.1203	-.0072	.0199
2	-.2649	.1642	-.0487	-.0256	.0105	2	.8914	.1843	-.1236	.0018	.0209
3	-.2089	.1642	-.0487	-.0190	.0111	3	.0423	.1917	-.1303	.0086	.0213
5	-.0858	.1229	-.0507	-.0045	.0128	5	.1511	.2021	-.1404	.0218	.0230
7	.0373	.1293	-.0516	.0104	.0136	7	.2719	.2169	-.1504	.0358	.0258
10	.3731	.1505	-.0660	.0487	.0179	10	.5439	.2437	-.1564	.0653	.0316
15	.6865	.2276	-.0949	.0878	.0320	15	.9065	.3254	-.2038	.1107	.0460
20	.7499	.3110	-.1279	.0949	.0416	20	1.1029	.4621	-.2473	.1364	.0648
25	.8021	.4166	-.1589	.1007	.0550	25	1.2086	.6108	-.2807	.1496	.0850
M = 0.85						M = 1.05					
-10	-.6670	.2408	-.0427	-.0831	.0257	-10	-.6119	.2809	-.0065	-.0714	.0313
-7	-.6863	.2062	-.0447	-.0848	.0211	-7	-.4953	.2350	-.0387	-.0573	.0259
-5	-.6319	.1718	-.0477	-.0773	.0174	-5	-.4108	.2136	-.0580	-.0465	.0232
-3	-.5880	.1503	-.0447	-.0688	.0143	-3	-.3147	.1920	-.0773	-.0343	.0212
-2	-.5441	.1390	-.0388	-.0628	.0130	-2	-.2622	.1878	-.0870	-.0279	.0188
-1	-.4862	.1287	-.0447	-.0543	.0123	-1	-.2040	.1820	-.0986	-.0212	.0198
0	-.4300	.1243	-.0369	-.0454	.0122	0	-.1457	.1777	-.1051	-.0141	.0198
1	-.3686	.1243	-.0350	-.0388	.0121	1	-.0728	.1777	-.1160	-.0062	.0203
2	-.2984	.1201	-.0330	-.0300	.0121	2	-.0233	.1792	-.1205	.0007	.0208
3	-.2212	.1243	-.0388	-.0211	.0127	3	.0408	.1849	-.1251	.0080	.0215
5	-.0878	.1287	-.0516	-.0055	.0137	5	.1457	.1992	-.1354	.0209	.0232
7	.0527	.1373	-.0598	.0113	.0147	7	.2535	.2136	-.1463	.0338	.0258
10	.3756	.1589	-.0738	.0490	.0196	10	.5128	.2421	-.1495	.0628	.0317
15	.7284	.2382	-.1079	.0925	.0339	15	.8741	.3281	-.2030	.1071	.0461
20	.8004	.3289	-.1437	.1005	.0450	20	1.1043	.4786	-.2578	.1361	.0664
25	.8180	.4178	-.1611	.1023	.0559						
M = 0.90						M = 1.10					
-10	-.7030	.2658	-.0359	-.0885	.0291	-10	-.5859	.2662	-.0074	-.0681	.0311
-7	-.6964	.2235	-.0129	-.0861	.0241	-7	-.4743	.2250	-.0371	-.0550	.0263
-5	-.6632	.1917	-.0084	-.0805	.0202	-5	-.3906	.2017	-.0599	-.0438	.0235
-3	-.5969	.1663	-.0074	-.0720	.0171	-3	-.2930	.1839	-.0772	-.0322	.0214
-2	-.5505	.1517	-.0110	-.0642	.0152	-2	-.2428	.1770	-.0833	-.0264	.0209
-1	-.4908	.1419	-.0165	-.0559	.0141	-1	-.1953	.1745	-.0956	-.0203	.0206
0	-.4046	.1370	-.0275	-.0449	.0137	0	-.1395	.1632	-.1018	-.0139	.0206
1	-.3250	.1378	-.0348	-.0356	.0137	1	-.0698	.1702	-.1111	-.0058	.0206
2	-.2653	.1358	-.0355	-.0276	.0135	2	-.0279	.1729	-.1142	.0003	.0209
3	-.2089	.1330	-.0359	-.0213	.0142	3	.0419	.1839	-.1204	.0073	.0214
5	-.0829	.1353	-.0458	-.0066	.0148	5	.1451	.1907	-.1309	.0203	.0230
7	.0696	.1459	-.0653	.0127	.0159	7	.2511	.2058	-.1414	.0325	.0250
10	.4145	.1744	-.0954	.0523	.0218	10	.4893	.2387	-.1438	.0587	.0302
15	.7793	.2495	-.1302	.0968	.0354	15	.8510	.3280	-.1975	.1025	.0446
20	.8987	.3596	-.1724	.1119	.0496	20	1.0603	.4693	-.2512	.1297	.0633
25	.8953	.4631	-.1944	.1111	.0609						

TABLE 4 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

 $\frac{x}{c} = 0.06$
 $\frac{z}{c} = 0.60$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.8224	.2301	.0368	-.0985	.0241	-10	-.8275	.3277	.0322	-.0989	.0345
-7	-.7808	.1756	-.0037	-.0901	.0169	-7	-.7012	.2656	.0042	-.0816	.0272
-5	-.6452	.1415	-.0356	-.0743	.0132	-5	-.6285	.2222	-.0049	-.0740	.0226
-3	-.5123	.1213	-.0356	-.0575	.0105	-3	-.5432	.1957	-.0133	-.0617	.0200
-2	-.4513	.1144	-.0257	-.0504	.0097	-2	-.4738	.1802	-.0133	-.0548	.0184
-1	-.4043	.1102	-.0233	-.0447	.0092	-1	-.4169	.1724	-.0167	-.0471	.0169
0	-.3517	.1077	-.0233	-.0373	.0090	0	-.3222	.1677	-.0272	-.0368	.0169
1	-.2935	.1036	-.0257	-.0306	.0089	1	-.2274	.1724	-.0412	-.0253	.0174
2	-.2409	.1049	-.0233	-.0245	.0092	2	-.1800	.1600	-.0342	-.0203	.0165
3	-.1717	.1036	-.0184	-.0168	.0097	3	-.0979	.1647	-.0482	-.0100	.0176
5	-.0554	.1049	-.0147	-.0027	.0105	5	.0569	.1647	-.0517	.0077	.0176
7	.0831	.1088	-.0135	.0124	.0100	7	.2527	.1724	-.0657	.0303	.0191
10	.4292	.1498	-.0552	.0511	.0158	10	.5938	.2004	-.1111	.0698	.0264
15	.6673	.2343	-.1041	.0847	.0320	15	.9412	.3122	-.1670	.1123	.0437
20	.7199	.3051	-.1298	.0914	.0391	20	1.0517	.4210	-.2263	.1292	.0584
25	.7559	.3935	-.1506	.0938	.0497	25	1.0833	.5297	-.2508	.1311	.0707
M = 0.80						M = 1.00					
-10	-.8759	.2605	.0033	-.1074	.0274	-10	-.7791	.3221	.0175	-.0916	.0353
-7	-.7898	.2053	-.0075	-.0945	.0203	-7	-.6579	.2624	-.0081	-.0762	.0282
-5	-.7374	.1722	-.0033	-.0859	.0166	-5	-.5700	.2281	-.0195	-.0659	.0247
-3	-.6326	.1464	-.0066	-.0720	.0137	-3	-.4638	.2028	-.0329	-.0526	.0213
-2	-.5503	.1344	-.0016	-.0625	.0121	-2	-.4062	.1924	-.0396	-.0453	.0203
-1	-.4866	.1271	.0000	-.0547	.0114	-1	-.3486	.1864	-.0463	-.0383	.0194
0	-.4267	.1205	-.0016	-.0473	.0109	0	-.2789	.1789	-.0530	-.0298	.0189
1	-.3556	.1160	-.0016	-.0386	.0104	1	-.2031	.1730	-.0563	-.0217	.0183
2	-.2845	.1142	.0041	-.0309	.0106	2	-.1273	.1730	-.0590	-.0136	.0189
3	-.2134	.1132	.0049	-.0227	.0106	3	-.0667	.1730	-.0631	-.0063	.0190
5	-.0674	.1095	.0049	-.0057	.0112	5	.0849	.1730	-.0691	.0118	.0194
7	.1011	.1114	.0041	.0130	.0111	7	.2819	.1804	-.0778	.0338	.0206
10	.4754	.1464	-.0480	.0561	.0183	10	.5851	.2118	-.1201	.0692	.0275
15	.7337	.2366	-.1068	.0913	.0329	15	.9338	.3295	-.1871	.1111	.0471
20	.7898	.3186	-.1449	.0970	.0424	20	1.1702	.4861	-.2408	.1413	.0670
25	.8235	.4078	-.1673	.0999	.0544						
M = 0.85						M = 1.05					
-10	-.9094	.2792	.0257	-.1125	.0307	-10	-.7567	.3104	.0175	-.0893	.0348
-7	-.8177	.2192	.0211	-.0997	.0232	-7	-.6427	.2486	-.0071	-.0757	.0277
-5	-.7543	.1847	.0211	-.0894	.0189	-5	-.5609	.2198	-.0188	-.0642	.0243
-3	-.6697	.1542	.0133	-.0761	.0154	-3	-.4587	.1955	-.0317	-.0511	.0212
-2	-.5957	.1422	.0109	-.0676	.0135	-2	-.4003	.1868	-.0349	-.0440	.0200
-1	-.5287	.1334	.0195	-.0595	.0129	-1	-.3418	.1810	-.0420	-.0369	.0190
0	-.4617	.1292	.0257	-.0518	.0119	0	-.2688	.1738	-.0498	-.0291	.0187
1	-.3912	.1239	.0219	-.0419	.0117	1	-.1957	.1681	-.0543	-.0209	.0185
2	-.3137	.1221	.0171	-.0338	.0113	2	-.1373	.1667	-.0562	-.0135	.0189
3	-.2326	.1179	.0109	-.0248	.0113	3	-.0643	.1652	-.0608	-.0060	.0192
5	-.0705	.1135	.0023	-.0056	.0117	5	.0818	.1667	-.0640	.0113	.0194
7	.1234	.1205	-.0054	.0171	.0117	7	.2717	.1738	-.0737	.0326	.0204
10	.4829	.1533	-.0476	.0565	.0186	10	.5639	.2098	-.1131	.0659	.0268
15	.7684	.2471	-.1177	.0971	.0338	15	.8969	.3247	-.1822	.1060	.0442
20	.8318	.3311	-.1575	.1022	.0441	20	1.1365	.4870	-.2482	.1372	.0662
25	.8600	.4230	-.1738	.1057	.0559						
M = 0.90						M = 1.10					
-10	-.9216	.3043	.0567	-.1123	.0319	-10	-.7332	.2974	.0192	-.0893	.0342
-7	-.8351	.2406	.0515	-.0993	.0248	-7	-.6213	.2422	-.0056	-.0717	.0277
-5	-.7519	.2030	.0464	-.0892	.0203	-5	-.5373	.2120	-.0180	-.0615	.0242
-3	-.6555	.1735	.0368	-.0767	.0166	-3	-.4394	.1872	-.0273	-.0492	.0215
-2	-.5989	.1587	.0383	-.0690	.0149	-2	-.3806	.1804	-.0334	-.0418	.0200
-1	-.5257	.1472	.0324	-.0606	.0139	-1	-.3246	.1734	-.0402	-.0350	.0194
0	-.4359	.1407	.0236	-.0497	.0132	0	-.2575	.1665	-.0458	-.0282	.0190
1	-.3726	.1326	.0236	-.0416	.0126	1	-.1931	.1625	-.0532	-.0207	.0190
2	-.2961	.1249	.0228	-.0335	.0126	2	-.1315	.1611	-.0526	-.0129	.0169
3	-.2296	.1174	.0169	-.0250	.0124	3	-.0644	.1597	-.0582	-.0058	.0190
5	-.0599	.1259	.0022	-.0052	.0126	5	.0784	.1597	-.0613	.0112	.0176
7	.1664	.1374	-.0301	.0210	.0135	7	.2687	.1734	-.0737	.0329	.0203
10	.5224	.1718	-.0677	.0614	.0211	10	.5261	.2078	-.1046	.0622	.0265
15	.8285	.2667	-.1266	.1038	.0368	15	.8480	.3234	-.1727	.1009	.0423
20	.9050	.3617	-.1773	.1098	.0480	20	1.0775	.4762	-.2377	.1308	.0631
25	.9250	.4582	-.1965	.1110	.0594						

TABLE 4. -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL -- Continued

 $\frac{t}{c} = 0.06$ $\frac{x_a}{c} = 0.80$

α , deg	C_L	C_D	C_M	C_L	C_D	α , deg	C_L	C_D	C_M	C_L	C_D
M = 0.60						M = 0.95					
-10	-.9843	.2523	.1350	-.1147	.0235	-10	-1.0433	.3343	.1678	-.1212	.0357
-7	-.9039	.1883	.0858	-.1033	.0166	-7	-.8852	.2643	.1609	-.1063	.0274
-5	-.7348	.1500	.0711	-.0851	.0116	-5	-.7904	.2254	.1273	-.0913	.0232
-3	-.5961	.1267	.0662	-.0690	.0092	-3	-.6513	.1944	.1084	-.0744	.0187
-2	-.5296	.1173	.0589	-.0609	.0084	-2	-.5786	.1710	.1028	-.0660	.0171
-1	-.4603	.1090	.0662	-.0532	.0076	-1	-.4837	.1633	.0909	-.0549	.0164
0	-.4020	.1023	.0613	-.0461	.0069	0	-.3984	.1555	.0804	-.0449	.0153
1	-.3355	.0982	.0613	-.0390	.0066	1	-.3320	.1415	.0818	-.0376	.0140
2	-.2773	.0954	.0662	-.0323	.0063	2	-.2434	.1399	.0770	-.0272	.0138
3	-.2080	.0887	.0662	-.0246	.0061	3	-.1423	.1322	.0713	-.0169	.0136
5	-.0471	.0846	.0638	-.0064	.0063	5	.0790	.1290	.0489	.0084	.0127
7	.1109	.0915	.0613	.0118	.0063	7	.3003	.1322	.0105	.0349	.0145
10	.4436	.0776	.0000	.0501	.0129	10	.6260	.1788	-.0665	.0725	.0239
15	.6627	.2454	-.0736	.0834	.0280	15	.9801	.3187	-.1469	.1163	.0443
20	.7181	.3164	-.1227	.0902	.0368	20	1.0275	.4121	-.2028	.1251	.0564
25	.7348	.4023	-.1350	.0912	.0466	25	1.0591	.5286	-.2413	.1262	.0691
M = 0.80						M = 1.00					
-10	-1.0342	.2810	.1140	-.1237	.0255	-10	-.9772	.3358	.1544	-.1131	.0363
-7	-.9405	.2211	.0974	-.1096	.0184	-7	-.8497	.2716	.1309	-.0980	.0286
-5	-.8618	.1769	.0932	-.0982	.0141	-5	-.7435	.2253	.1141	-.0847	.0238
-3	-.7045	.1474	.0891	-.0796	.0107	-3	-.6069	.1941	.1007	-.0689	.0199
-2	-.6183	.1364	.0870	-.0696	.0097	-2	-.5311	.1790	.0906	-.0600	.0180
-1	-.5433	.1244	.0932	-.0605	.0086	-1	-.4552	.1642	.0839	-.0508	.0166
0	-.4684	.1180	.0937	-.0523	.0078	0	-.3793	.1567	.0785	-.0427	.0157
1	-.3897	.1105	.0949	-.0427	.0072	1	-.2974	.1493	.0739	-.0339	.0152
2	-.3185	.1042	.0932	-.0350	.0070	2	-.2124	.1417	.0705	-.0236	.0148
3	-.2361	.0995	.0932	-.0259	.0068	3	-.1214	.1388	.0638	-.0133	.0139
5	-.0487	.0884	.0850	-.0055	.0074	5	.1062	.1388	.0302	.0125	.0139
7	.1386	.0967	.0788	.0145	.0078	7	.3338	.1493	-.0134	.0383	.0175
10	.4871	.1428	.0083	.0555	.0167	10	.6069	.1941	-.0772	.0715	.0251
15	.7232	.2396	-.0932	.0905	.0322	15	.9559	.3284	-.1611	.1127	.0443
20	.7719	.3179	-.1326	.0955	.0415	20	1.1744	.4925	-.2182	.1422	.0667
25	.7906	.4127	-.1512	.0973	.0527						
M = 0.85						M = 1.05					
-10	-1.0578	.3001	.1384	-.1284	.0312	-10	-.9476	.3327	.1516	-.1093	.0354
-7	-.9661	.2347	.1287	-.1142	.0232	-7	-.8164	.2580	.1246	-.0934	.0272
-5	-.8991	.1907	.1248	-.1036	.0183	-5	-.7143	.2209	.1148	-.0810	.0229
-3	-.7581	.1560	.1111	-.0856	.0141	-3	-.5744	.1850	.0974	-.0651	.0192
-2	-.6699	.1387	.1073	-.0753	.0125	-2	-.5102	.1720	.0923	-.0573	.0176
-1	-.5785	.1301	.1131	-.0650	.0114	-1	-.4374	.1607	.0871	-.0488	.0161
0	-.4936	.1215	.1150	-.0552	.0106	0	-.3703	.1506	.0806	-.0410	.0154
1	-.4055	.1127	.1053	-.0445	.0096	1	-.2887	.1435	.0742	-.0318	.0146
2	-.3173	.1075	.1014	-.0351	.0091	2	-.2041	.1362	.0729	-.0223	.0142
3	-.2295	.1040	.0959	-.0252	.0089	3	-.0962	.1319	.0600	-.0103	.0139
5	-.0282	.0954	.0862	-.0034	.0088	5	.1254	.1362	.0258	.0145	.0139
7	.1939	.1075	.0643	.0214	.0094	7	.3236	.1491	-.0129	.0368	.0175
10	.5289	.1560	.0020	.0616	.0180	10	.5686	.1936	-.0645	.0655	.0244
15	.7686	.2514	-.1053	.0946	.0332	15	.9039	.3226	-.1548	.1069	.0429
20	.8251	.3434	-.1501	.1010	.0435	20	1.1371	.4919	-.2257	.1373	.0653
25	.8427	.4421	-.1697	.1023	.0558						
M = 0.90						M = 1.10					
-10	-1.0891	.3276	.1842	-.1289	.0327	-10	-.9046	.3131	.1421	-.1044	.0351
-7	-.9992	.2490	.1658	-.1152	.0250	-7	-.7818	.2444	.1217	-.0895	.0271
-5	-.8859	.2048	.1584	-.1027	.0198	-5	-.6980	.2087	.1112	-.0786	.0235
-3	-.7494	.1720	.1437	-.0857	.0153	-3	-.5612	.1772	.0957	-.0634	.0196
-2	-.6661	.1555	.1326	-.0748	.0137	-2	-.5026	.1647	.0926	-.0559	.0182
-1	-.5662	.1392	.1252	-.0643	.0120	-1	-.4300	.1538	.0834	-.0478	.0169
0	-.4863	.1311	.1186	-.0546	.0112	0	-.3546	.1442	.0803	-.0393	.0161
1	-.3997	.1229	.1179	-.0449	.0105	1	-.2792	.1374	.0741	-.0305	.0153
2	-.3164	.1196	.1105	-.0344	.0103	2	-.1954	.1304	.0710	-.0207	.0149
3	-.2265	.1064	.1068	-.0255	.0095	3	-.0810	.1236	.0575	-.0085	.0143
5	.0100	.1032	.0773	.0004	.0099	5	.1452	.1304	.0185	.0180	.0148
7	.2664	.1179	.0368	.0291	.0124	7	.3211	.1442	-.0123	.0366	.0183
10	.5995	.1639	-.0332	.0691	.0213	10	.5584	.2623	-.0648	.0647	.0258
15	.8659	.2784	-.1142	.1055	.0378	15	.8795	.3226	-.1513	.1040	.0437
20	.8893	.3604	-.1695	.1071	.0472	20	1.1057	.4875	-.2192	.1338	.0656
25	.9159	.4668	-.1952	.1099	.0606						

TABLE 4. - THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Concluded

 $\frac{t}{c} = 0.06$ $\frac{x}{c} = 1.00$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-1.1859	.2991	.3195	-.1399	.0305	-10	-1.2443	.3684	.3679	-.1441	.0410
-7	-1.1081	.2172	.2273	-.1267	.0213	-7	-1.0697	.2795	.3230	-.1225	.0310
-5	-.9637	.1694	.2113	-.1095	.0157	-5	-.9491	.2295	.3047	-.1079	.0251
-3	-.8137	.1419	.2101	-.0920	.0124	-3	-.7999	.1905	.2837	-.0905	.0207
-2	-.7499	.1353	.2089	-.0843	.0113	-2	-.7142	.1733	.2781	-.0809	.0188
-1	-.6665	.1283	.2113	-.0752	.0100	-1	-.6253	.1592	.2654	-.0709	.0173
0	-.5832	.1216	.2273	-.0657	.0089	0	-.5365	.1482	.2584	-.0612	.0161
1	-.5082	.1147	.2089	-.0576	.0084	1	-.4222	.1389	.2556	-.0489	.0148
2	-.4305	.1080	.2089	-.0499	.0081	2	-.3301	.1281	.2416	-.0385	.0137
3	-.3472	.1011	.2089	-.0405	.0082	3	-.2000	.1217	.1994	-.0239	.0127
5	-.1389	.0903	.1855	-.0175	.0077	5	.0730	.1201	.1376	.0069	.0127
7	.0555	.0917	.1597	.0051	.0074	7	.3016	.1265	.0716	.0339	.0150
10	.4166	.1419	.0553	.0475	.0147	10	.6031	.1857	-.0197	.0705	.0240
15	.6249	.2444	-.0614	.0809	.0305	15	.9650	.3216	-.1194	.1163	.0437
20	.7304	.3249	-.1290	.0947	.0418	20	1.0094	.4138	-.2008	.1271	.0567
25	.7360	.4016	-.1229	.0940	.0510	25	1.1078	.6353	-.2598	.1368	.0733
M = 0.80						M = 1.00					
-10	-1.2499	.3128	.2865	-.1499	.0335	-10	-1.2032	.3655	.3571	-.1386	.0409
-7	-1.1561	.2391	.2615	-.1339	.0253	-7	-1.0356	.2772	.3167	-.1183	.0313
-5	-1.0510	.1929	.2491	-.1180	.0191	-5	-.9138	.2277	.3005	-.1042	.0251
-3	-.8483	.1550	.2325	-.0952	.0149	-3	-.7706	.1873	.2830	-.0872	.0213
-2	-.7507	.1421	.2383	-.0838	.0131	-2	-.6792	.1707	.2722	-.0769	.0189
-1	-.6681	.1301	.2366	-.0743	.0118	-1	-.6001	.1573	.2627	-.0677	.0175
0	-.5818	.1237	.2366	-.0651	.0108	0	-.5026	.1453	.2560	-.0573	.0158
1	-.4879	.1145	.2325	-.0547	.0098	1	-.3960	.1333	.2426	-.0451	.0147
2	-.4054	.1088	.2284	-.0451	.0092	2	-.2772	.1258	.2224	-.0333	.0136
3	-.3003	.1015	.2200	-.0342	.0087	3	-.1371	.1153	.1887	-.0174	.0126
5	-.0938	.0914	.1968	-.0105	.0079	5	.1066	.1258	.1172	.0111	.0127
7	.1501	.1015	.1619	.0164	.0084	7	.3198	.1409	.0606	.0351	.0159
10	.4692	.1449	.0664	.0547	.0165	10	.5696	.1902	-.0161	.0658	.0243
15	.7131	.2483	-.0914	.0916	.0335	15	.9442	.3281	-.1280	.1120	.0452
20	.7882	.3314	-.1453	.1002	.0433	20	1.1879	.4928	-.2021	.1434	.0682
25	.8145	.4283	-.1661	.1025	.0463	25	1.2123	.6276	-.2830	.1497	.0893
M = 0.85						M = 1.05					
-10	-1.2926	.3405	.3266	-.1543	.0358	-10	-1.1598	.3524	.3481	-.1340	.0410
-7	-1.1615	.2596	.3110	-.1341	.0258	-7	-1.0130	.2657	.3118	-.1151	.0311
-5	-1.0270	.2081	.2836	-.1160	.0200	-5	-.8809	.2640	.2923	-.0998	.0256
-3	-.8535	.1680	.2538	-.0954	.0151	-3	-.7341	.1791	.2793	-.0837	.0210
-2	-.7649	.1549	.2538	-.0860	.0134	-2	-.6548	.1646	.2663	-.0741	.0186
-1	-.6764	.1394	.2483	-.0752	.0120	-1	-.5726	.1502	.2598	-.0641	.0171
0	-.5737	.1298	.2381	-.0645	.0110	0	-.4698	.1358	.2468	-.0538	.0157
1	-.4745	.1220	.2295	-.0537	.0101	1	-.3582	.1271	.2299	-.0417	.0147
2	-.3895	.1158	.2232	-.0430	.0095	2	-.2261	.1213	.1949	-.0264	.0138
3	-.2691	.1054	.2080	-.0301	.0086	3	-.0881	.1170	.1559	-.0107	.0137
5	-.0531	.0976	.1864	-.0064	.0082	5	.1263	.1285	.1039	.0128	.0137
7	.1841	.1089	.1441	.0206	.0102	7	.3112	.1445	.0520	.0349	.0171
10	.4958	.1549	.0494	.0584	.0182	10	.5550	.1920	-.0130	.0638	.0249
15	.7472	.2534	-.0987	.0946	.0344	15	.8956	.3234	-.1234	.1069	.0439
20	.8216	.3432	-.1613	.1036	.0445	20	1.1481	.4968	-.2014	.1390	.0674
25	.8357	.4336	-.1754	.1053	.0581	25	1.2186	.6339	-.2728	.1514	.0929
M = 0.90						M = 1.10					
-10	-1.2908	.3585	.3595	-.1518	.0402	-10	-1.1135	.3374	.3358	-.1286	.0404
-7	-1.1202	.2680	.3270	-.1295	.0290	-7	-.9617	.2545	.3010	-.1102	.0312
-5	-.9932	.2170	.3018	-.1132	.0235	-5	-.8492	.2116	.2861	-.0973	.0263
-3	-.8460	.1744	.2751	-.0958	.0189	-3	-.7058	.1715	.2612	-.0802	.0216
-2	-.7557	.1612	.2722	-.0852	.0161	-2	-.6299	.1576	.2612	-.0713	.0195
-1	-.6621	.1480	.2663	-.0747	.0158	-1	-.5483	.1438	.2513	-.0621	.0178
0	-.5651	.1364	.2574	-.0637	.0144	0	-.4302	.1300	.2351	-.0495	.0165
1	-.4682	.1349	.2545	-.0532	.0140	1	-.3234	.1175	.2115	-.0365	.0147
2	-.3645	.1251	.2441	-.0422	.0132	2	-.1828	.1147	.1804	-.0215	.0131
3	-.2608	.1135	.2278	-.0304	.0121	3	-.0703	.1106	.1493	-.0092	.0132
5	.0000	.1068	.1731	-.0012	.0117	5	.1265	.1230	.0995	.0133	.0142
7	.2745	.1200	.0917	.0304	.0132	7	.3037	.1438	.0498	.0341	.0175
10	.5819	.1660	.0074	.0686	.0214	10	.5202	.1853	-.0124	.0601	.0250
15	.8895	.2911	-.0962	.1096	.0406	15	.8576	.3194	-.1182	.1017	.0428
20	.9029	.3700	-.1805	.1112	.0492	20	1.0966	.4853	-.0722	.1331	.0649
25	.9296	.4737	-.2012	.1140	.0618	25	1.2513	.6763	-.2687	.1539	.0955

TABLE 5 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL

 $\frac{x}{c} = 0.06$ $\frac{y}{c} = \text{NONE}$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.6850	.1259	.0492	-.0812	.0089	-10	-.8843	.1977	.1695	-.1020	.0170
-7	-.5516	.0656	-.0148	-.0613	.0027	-7	-.6432	.1791	.0934	-.0734	.0083
-5	-.3959	.0383	-.0167	-.0436	.0008	-5	-.4497	.0711	.0500	-.0520	.0043
-3	-.2402	.0274	-.0142	-.0259	.0002	-3	-.2738	.0464	.0239	-.0307	.0018
-2	-.1690	.0218	-.0138	-.0173	.0000	-2	-.1784	.0371	.0083	-.0190	.0012
-1	-.0845	.0218	-.0142	-.0078	.0002	-1	-.0955	.0309	.0006	-.0093	.0012
0	.0000	.0207	-.0123	.0009	.0004	0	.0000	.0309	-.0044	.0019	.0013
1	.0712	.0218	-.0118	.0104	.0002	1	.0904	.0339	-.0139	.0122	.0014
2	.1468	.0274	-.0099	.0194	.0002	2	.2035	.0383	-.0222	.0241	.0032
3	.2269	.0371	-.0099	.0289	.0008	3	.2990	.0464	-.0328	.0359	.0049
5	.3825	.0547	-.0059	.0471	.0037	5	.4799	.0741	-.0667	.0576	.0092
7	.5249	.0874	-.0128	.0652	.0085	7	.6633	.1082	-.1084	.0785	.0119
10	.6494	.1521	-.0723	.0833	.0178	10	.8944	.1853	-.1778	.1066	.0259
15	.6717	.2406	-.1186	.0941	.0302	15	1.1707	.3521	-.2390	.1483	.0486
20	.6939	.3160	-.1279	.0946	.0399						
25	.7161	.4048	-.1451	.0950	.0511						
M = 0.80						M = 1.00					
-10	-.7870	.1502	.0412	-.0946	.0120	-10	-.8281	.1865	.1544	-.0942	.0161
-7	-.6350	.0814	.0033	-.0732	.0051	-7	-.6115	.1154	.0705	-.0694	.0083
-5	-.4740	.0477	-.0066	-.0527	.0017	-5	-.4478	.0799	.0612	-.0512	.0047
-3	-.2862	.0256	-.0095	-.0307	.0006	-3	-.2865	.0544	.0330	-.0316	.0025
-2	-.1908	.0213	-.0004	-.0203	.0003	-2	-.1902	.0444	.0213	-.0206	.0023
-1	-.1014	.0183	-.0033	-.0101	.0003	-1	-.0963	.0385	.0053	-.0096	.0021
0	-.0119	.0183	.0000	.0006	.0006	0	.0024	.0367	-.0080	.0016	.0020
1	.0566	.0183	-.0007	.0113	.0006	1	.0987	.0385	-.0202	.0119	.0021
2	.1818	.0234	.0033	.0226	.0016	2	.1950	.0426	-.0346	.0238	.0041
3	.2862	.0294	.0116	.0344	.0026	3	.2913	.0503	-.0506	.0346	.0057
5	.4651	.0477	.0046	.0570	.0058	5	.4694	.0740	-.0772	.0552	.0097
7	.6231	.0844	-.0148	.0764	.0107	7	.6163	.1065	-.1065	.0732	.0144
10	.7632	.1429	-.0511	.0952	.0196	10	.8281	.1775	-.1624	.0991	.0243
15	.7304	.2382	-.1220	.0952	.0316	15	1.1243	.3422	-.2343	.1412	.0466
20	.7691	.3299	-.1451	.0996	.0428						
25	.7989	.4326	-.1649	.1019	.0545						
M = 0.85						M = 1.05					
-10	-.7953	.1612	.0610	-.0954	.0126	-10	-.7846	.1787	.1404	-.0892	.0160
-7	-.6497	.0930	.0310	-.0756	.0053	-7	-.5792	.1106	.0878	-.0656	.0086
-5	-.5013	.0550	.0053	-.0560	.0018	-5	-.4361	.0783	.0587	-.0482	.0053
-3	-.3024	.0290	-.0062	-.0324	.0001	-3	-.2746	.0556	.0332	-.0293	.0030
-2	-.2072	.0241	.0000	-.0218	-.0001	-2	-.1754	.0459	.0179	-.0181	.0024
-1	-.1092	.0207	.0028	-.0109	-.0001	-1	-.0900	.0408	.0051	-.0081	.0025
0	-.0112	.0172	.0000	.0008	.0004	0	.0023	.0397	-.0128	.0013	.0025
1	.1120	.0200	.0000	.0133	.0007	1	.1061	.0426	-.0230	.0134	.0028
2	.2128	.0207	.0046	.0256	.0020	2	.1892	.0482	-.0322	.0235	.0042
3	.2968	.0276	.0016	.0359	.0028	3	.2677	.0539	-.0459	.0327	.0058
5	.5069	.0517	-.0170	.0604	.0069	5	.4292	.0760	-.0740	.0520	.0096
7	.6469	.0909	-.0465	.0797	.0124	7	.5792	.1078	-.1021	.0690	.0143
10	.7869	.1508	-.0697	.0984	.0212	10	.7869	.1760	-.1521	.0941	.0236
15	.7589	.2410	-.1316	.0971	.0327	15	1.0753	.3291	-.2297	.1349	.0446
20	.8149	.3443	-.1579	.1033	.0453						
25	.8429	.4476	-.1796	.1060	.0574						
M = 0.90						M = 1.10					
-10	-.8291	.1753	.1022	-.0992	.0144	-10	-.7524	.1692	.1326	-.0847	.0156
-7	-.6442	.1026	.0569	-.0754	.0067	-7	-.5549	.1037	.0825	-.0621	.0090
-5	-.4911	.0650	.0356	-.0569	.0029	-5	-.4151	.0742	.0574	-.0453	.0055
-3	-.3248	.0356	.0204	-.0356	.0006	-3	-.2641	.0518	.0319	-.0269	.0033
-2	-.2192	.0260	.0131	-.0233	.0001	-2	-.1731	.0458	.0196	-.0172	.0026
-1	-.1135	.0227	.0029	-.0113	.0002	-1	-.0954	.0410	.0074	-.0084	.0027
0	.0026	.0195	-.0044	.0010	.0005	0	.0022	.0137	-.0059	.0028	.0028
1	.1083	.0234	-.0131	.0141	.0008	1	.0799	.0137	-.0133	.0116	.0035
2	.2139	.0285	-.0190	.0274	.0021	2	.1798	.0481	-.0295	.0228	.0049
3	.3168	.0356	-.0277	.0382	.0037	3	.2530	.0546	-.0442	.0312	.0063
5	.4885	.0585	-.0409	.0592	.0085	5	.4128	.0775	-.0712	.0498	.0102
7	.6416	.0941	-.0701	.0531	.0138	7	.5571	.1119	-.0962	.0666	.0147
10	.3344	.1656	-.1139	.1031	.0241	10	.7458	.1768	-.1424	.0899	.0234
15	.8476	.2565	-.1519	.1054	.0357	15	1.0232	.3275	-.1964	.1280	.0439
20	.8872	.3662	-.1869	.1102	.0488						
25	.8951	.4739	-.1986	.1107	.0508						

TABLE 5 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL -- Continued

$$\frac{x}{c} = 0.06 \quad \frac{y}{c} = 0.40$$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.5621	.2142	-.0516	-.0682	.0236	-10	-.6738	.2995	-.0199	-.0770	.0176
-7	-.6554	.1742	-.0565	-.0783	.0194	-7	-.5490	.2541	-.0420	-.0625	.0290
-5	-.5843	.1469	-.0860	-.0667	.0150	-5	-.4866	.2172	-.0530	-.0552	.0251
-3	-.4599	.1258	-.0948	-.0494	.0126	-3	-.4367	.1903	-.0530	-.0475	.0221
-2	-.4066	.1198	-.0894	-.0418	.0119	-2	-.3918	.1804	-.0662	-.0417	.0209
-1	-.3488	.1186	-.0787	-.0343	.0116	-1	-.3369	.1743	-.0662	-.0334	.0201
0	-.2955	.1169	-.0811	-.0274	.0116	0	-.2920	.1657	-.0696	-.0286	.0194
1	-.2400	.1169	-.0860	-.0203	.0117	1	-.1996	.1620	-.0751	-.0194	.0195
2	-.1822	.1198	-.0826	-.0132	.0120	2	-.1572	.1620	-.0806	-.0116	.0197
3	-.1289	.1229	-.0791	-.0063	.0129	3	-.0699	.1682	-.0861	-.0024	.0209
5	-.0111	.1284	-.0841	.0067	.0145	5	.0374	.1767	-.0916	.0121	.0217
7	.1000	.1393	-.0777	.0203	.0149	7	.1622	.1804	-.1027	.0262	.0224
10	.4621	.1622	-.0811	.0606	.0196	10	.5191	.2025	-.1270	.0683	.0283
15	.7287	.2431	-.1135	.0943	.0328	15	.8859	.2909	-.1303	.1168	.0429
20	.7443	.3168	-.1366	.0962	.0413	20	1.0357	.4013	-.2020	.1362	.0627
25	.7687	.4044	-.1449	.0973	.0529	25	1.0357	.5118	-.2241	.1352	.0720
M = 0.80						M = 1.00					
-10	-.5707	.2433	-.0471	-.0347	.0263	-10	-.6405	.2997	-.0095	-.0719	.0346
-7	-.7450	.2102	-.0570	-.0454	.0222	-7	-.5186	.2491	-.0455	-.0561	.0289
-5	-.6780	.1796	-.0603	-.0401	.0181	-5	-.4254	.2257	-.0624	-.0455	.0265
-3	-.5945	.1480	-.0702	-.0334	.0148	-3	-.3441	.2034	-.0782	-.0353	.0239
-2	-.5513	.1386	-.0685	-.0302	.0138	-2	-.2987	.1963	-.0878	-.0297	.0231
-1	-.4887	.0980	-.0692	-.0257	.0132	-1	-.2390	.1903	-.0941	-.0227	.0228
0	-.4142	.1283	-.0620	-.0211	.0130	0	-.1745	.1857	-.1036	-.0158	.0225
1	-.3427	.1261	-.0620	-.0166	.0128	1	-.0980	.1845	-.1089	-.0070	.0203
2	-.2797	.1261	-.0577	-.0126	.0132	2	-.0454	.1857	-.1142	.0005	.0233
3	-.2012	.1290	-.0620	-.0084	.0137	3	.0239	.1903	-.1247	.0088	.0238
5	-.0641	.1349	-.0669	-.0006	.0155	5	.1434	.2068	-.1322	.0237	.0256
7	.0671	.1407	-.0676	.0075	.0163	7	.2629	.2185	-.1459	.0376	.0278
10	.4589	.1590	-.0840	.0298	.0208	10	.5735	.2491	-.1565	.0724	.0339
15	.7599	.2360	-.1137	.0480	.0270	15	.9320	.3315	-.2093	.1234	.0479
20	.8106	.3202	-.1411	.0506	.0444						
25	.8404	.4206	-.1674	.0522	.0563						
M = 0.85						M = 1.05					
-10	-.6996	.2643	-.0536	-.0875	.0293	-10	-.6162	.2839	-.0015	-.0716	.0330
-7	-.7556	.2299	-.0510	-.0935	.0251	-7	-.4833	.2355	-.0395	-.0554	.0277
-5	-.7276	.1981	-.0090	-.0883	.0212	-5	-.3894	.2106	-.0623	-.0440	.0248
-3	-.6464	.1679	-.0180	-.0763	.0176	-3	-.3161	.1882	-.0790	-.0347	.0229
-2	-.5877	.1500	-.0303	-.0676	.0159	-2	-.2749	.1836	-.0851	-.0298	.0222
-1	-.5261	.1403	-.0381	-.0584	.0147	-1	-.2245	.1791	-.0952	-.0238	.0216
0	-.4533	.1335	-.0390	-.0492	.0141	0	-.1718	.1768	-.1003	-.0171	.0215
1	-.3694	.1335	-.0350	-.0391	.0141	1	-.1100	.1768	-.1079	-.0098	.0216
2	-.3022	.1307	-.0365	-.0302	.0142	2	-.0458	.1768	-.1120	-.0027	.0221
3	-.2239	.1307	-.0452	-.0204	.0146	3	.0115	.1825	-.1181	.0051	.0227
5	-.0672	.1363	-.0637	-.0022	.0161	5	.1260	.1938	-.1282	.0191	.0241
7	.0840	.1445	-.0746	.0152	.0172	7	.2520	.2073	-.1388	.0331	.0263
10	.4701	.1637	-.0922	.0592	.0217	10	.5314	.2355	-.1459	.0641	.0322
15	.7975	.2436	-.1248	.0989	.0355	15	.8934	.3199	-.1992	.1125	.0455
20	.8535	.3330	-.1541	.1054	.0462						
25	.8759	.4391	-.1808	.1087	.0586						
M = 0.90						M = 1.10					
-10	-.7124	.2815	-.0359	-.0881	.0313	-10	-.5839	.2622	-.0029	-.0680	.0325
-7	-.6992	.2401	-.0160	-.0853	.0270	-7	-.4627	.2189	-.0405	-.0531	.0274
-5	-.6465	.2063	-.0140	-.0779	.0230	-5	-.3768	.1972	-.0590	-.0430	.0248
-3	-.5831	.1778	-.0169	-.0689	.0196	-3	-.3085	.1810	-.0492	-.0342	.0230
-2	-.5356	.1648	-.0193	-.0630	.0179	-2	-.2622	.1755	-.0770	-.0289	.0220
-1	-.4776	.1519	-.0254	-.0553	.0168	-1	-.2093	.1701	-.0892	-.0225	.0217
0	-.4090	.1454	-.0330	-.0459	.0160	0	-.1542	.1658	-.0965	-.0158	.0215
1	-.3272	.1441	-.0403	-.0361	.0160	1	-.0992	.1647	-.1062	-.0090	.0215
2	-.2639	.1388	-.0441	-.0274	.0161	2	-.0419	.1669	-.1111	-.0021	.0218
3	-.1873	.1441	-.0461	-.0192	.0163	3	.1278	.1864	-.1257	.0184	.0238
5	-.0528	.1492	-.0593	-.0026	.0176	5	.2424	.1983	-.1379	.0314	.0258
7	.1055	.1544	-.0849	.0169	.0187	7	.5068	.2373	-.1404	.0618	.0316
10	.5066	.1817	-.1162	.0623	.0245	10	.8593	.3186	-.1964	.1091	.0446
15	.8576	.2608	-.1506	.1048	.0387						
20	.9314	.3660	-.1839	.1153	.0508						
25	.9314	.4632	-.2002	.1140	.0650						

TABLE 5 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL -- Continued

 $\frac{x}{c} = 0.06$ $\frac{x}{c} = 0.60$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-.8594	.2505	.0513	-.1047	.0283	-10	-.8657	.3410	.0276	-.1032	.0375
-7	-.8793	.1933	.0171	-.1034	.0214	-7	-.7534	.2834	.0124	-.0882	.0308
-5	-.7445	.1527	-.0186	-.0862	.0164	-5	-.6786	.2466	-.0014	-.0785	.0266
-3	-.5810	.1277	-.0195	-.0661	.0134	-3	-.5788	.2098	-.0152	-.0664	.0226
-2	-.5346	.1200	-.0220	-.0601	.0124	-2	-.5039	.1976	-.0207	-.0579	.0212
-1	-.4684	.1151	-.0122	-.0519	.0117	-1	-.4416	.1852	-.0290	-.0499	.0203
0	-.4131	.1124	-.0073	-.0446	.0113	0	-.3792	.1608	-.0373	-.0414	.0195
1	-.3468	.1091	-.0122	-.0369	.0109	1	-.2894	.1730	-.0359	-.0317	.0191
2	-.2850	.1091	-.0098	-.0292	.0108	2	-.2046	.1730	-.0442	-.0218	.0194
3	-.2143	.1091	-.0068	-.0206	.0109	3	-.1447	.1669	-.0373	-.0155	.0186
5	-.0707	.1109	-.0064	-.0039	.0116	5	.0200	.1669	-.0428	.0041	.0190
7	.0839	.1140	.0000	.0137	.0116	7	.2320	.1669	-.0635	.0295	.0200
10	.4927	.1527	-.0464	.0605	.0182	10	.6437	.2159	-.1214	.0756	.0289
15	.6804	.2395	-.0953	.0884	.0316	15	.9680	.3263	-.1766	.1153	.0458
20	.7136	.3108	-.1173	.0918	.0406	20	1.0678	.4245	-.2180	.1327	.0603
25	.8572	.4032	-.1344	.0944	.0262						
M = 0.80						M = 1.00					
-10	-.8943	.2753	.0426	-.1095	.0302	-10	-.8176	.3362	.0238	-.0961	.0372
-7	-.9298	.2301	.0197	-.1124	.0247	-7	-.7124	.2810	-.0026	-.0829	.0311
-5	-.8499	.1894	.0033	-.0992	.0200	-5	-.6263	.2446	-.0159	-.0722	.0267
-3	-.7462	.1537	.0000	-.0851	.0162	-3	-.5307	.2152	-.0278	-.0599	.0234
-2	-.6722	.1390	-.0017	-.0750	.0145	-2	-.4590	.2010	-.0344	-.0518	.0219
-1	-.5893	.1318	.0033	-.0658	.0136	-1	-.3992	.1952	-.0383	-.0443	.0213
0	-.5093	.1245	.0098	-.0558	.0127	0	-.3251	.1869	-.0489	-.0355	.0209
1	-.4235	.1208	.0098	-.0454	.0124	1	-.2438	.1834	-.0542	-.0265	.0206
2	-.3465	.1173	.0115	-.0368	.0122	2	-.1793	.1799	-.0555	-.0183	.0206
3	-.2724	.1173	.0098	-.0276	.0121	3	-.1004	.1799	-.0600	-.0095	.0206
5	-.0948	.1143	.0066	-.0072	.0125	5	.0550	.1811	-.0661	.0088	.0206
7	.0533	.1136	.0115	.0101	.0125	7	.2749	.1869	-.0767	.0334	.0222
10	.5123	.1464	-.0492	.0615	.0191	10	.6287	.2222	-.1269	.0738	.0295
15	.7344	.2410	-.1032	.0943	.0346	15	.9514	.3421	-.1904	.1128	.0479
20	.7729	.3212	-.1327	.0975	.0432	20	1.1953	.5008	-.2395	.1448	.0712
25	.8084	.4238	-.1523	.1012	.0558	25	1.2479	.6419	-.2855	.1536	.0856
M = 0.85						M = 1.05					
-10	-1.0070	.3003	.0507	-.1223	.0330	-10	-.7951	.3246	.0253	-.0934	.0370
-7	-.9792	.2469	.0500	-.1164	.0272	-7	-.6851	.2657	-.0015	-.0796	.0302
-5	-.9096	.2093	.0615	-.1078	.0229	-5	-.6049	.2288	-.0152	-.0699	.0263
-3	-.7983	.1716	.0462	-.0916	.0180	-3	-.5018	.2039	-.0266	-.0572	.0232
-2	-.7288	.1573	.0462	-.0835	.0166	-2	-.4445	.1927	-.0304	-.0501	.0218
-1	-.6314	.1409	.0338	-.0710	.0144	-1	-.3781	.1848	-.0378	-.0423	.0210
0	-.5480	.1355	.0400	-.0616	.0138	0	-.3093	.1758	-.0446	-.0340	.0203
1	-.4645	.1273	.0369	-.0516	.0132	1	-.2337	.1724	-.0512	-.0258	.0201
2	-.3839	.1238	.0338	-.0408	.0129	2	-.1650	.1701	-.0520	-.0174	.0200
3	-.2837	.1198	.0200	-.0294	.0129	3	-.0962	.1701	-.0570	-.0091	.0201
5	-.1085	.1184	.0062	-.0084	.0129	5	.0573	.1701	-.0616	.0087	.0203
7	.1057	.1238	.0000	.0157	.0132	7	.2773	.1758	-.0722	.0336	.0218
10	.5230	.1545	-.0477	.0632	.0204	10	.5797	.2130	-.1158	.0687	.0275
15	.7761	.2469	-.1184	.0983	.0354	15	.9074	.3335	-.1860	.1079	.0458
20	.8150	.3324	-.1462	.1013	.0453	20	1.1503	.4947	-.2448	.1410	.0688
25	.8429	.4391	-.1680	.1045	.0578	25	1.2374	.6334	-.2394	.1535	.0863
M = 0.90						M = 1.10					
-10	-1.0016	.3263	.0638	-.1189	.0354	-10	-.6017	.3804	.0651	-.0892	.0364
-7	-.9229	.2656	.0725	-.1084	.0274	-7	-.6634	.2504	-.0017	-.0766	.0296
-5	-.8416	.2218	.0638	-.0983	.0232	-5	-.5841	.2179	-.0115	-.0672	.0257
-3	-.7394	.1818	.0551	-.0865	.0189	-3	-.4805	.1919	-.0236	-.0548	.0226
-2	-.6738	.1690	.0449	-.0771	.0177	-2	-.4254	.1832	-.0285	-.0479	.0215
-1	-.5952	.1509	.0435	-.0690	.0155	-1	-.3637	.1746	-.0366	-.0404	.0207
0	-.5218	.1445	.0325	-.0591	.0148	0	-.2998	.1691	-.0427	-.0325	.0202
1	-.4248	.1405	.0290	-.0479	.0144	1	-.2314	.1637	-.0488	-.0248	.0199
2	-.3461	.1367	.0261	-.0384	.0140	2	-.1653	.1616	-.0488	-.0171	.0198
3	-.2674	.1315	.0232	-.0290	.0140	3	-.0992	.1605	-.0524	-.0092	.0198
5	-.0944	.1290	.0087	-.0084	.0143	5	.0507	.1637	-.0568	.0086	.0200
7	.1652	.1405	-.0261	.0209	.0144	7	.2535	.1637	-.0695	.0321	.0213
10	.5663	.1754	-.0667	.0664	.0232	10	.5466	.2071	-.1073	.0655	.0282
15	.8600	.2656	-.1348	.1054	.0388	15	.8640	.3273	-.1780	.1034	.0444
20	.8862	.3559	-.1633	.1082	.0485	20	1.0976	.4824	-.2097	.1352	.0660
25	.8993	.4655	-.1885	.1102	.0317	25	1.1726	.5983	-.2662	.1447	.0810

TABLE 5 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL -- Continued

$\frac{t}{c} = 0.06$

$\frac{x_a}{c} = 0.80$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-1.0107	.2750	.1471	-.1219	.0294	-10	-1.0600	.3634	.1679	-.1285	.0405
-7	-1.0151	.1971	.0999	-.1167	.0218	-7	-.9107	.2778	.1266	-.1092	.0316
-5	-.8499	.1526	.0658	-.0971	.0166	-5	-.8111	.2350	.1156	-.0966	.0263
-3	-.6738	.1266	.0570	-.0765	.0135	-3	-.6867	.1946	.1046	-.0802	.0216
-2	-.6077	.1158	.0585	-.0684	.0123	-2	-.6121	.1799	.1018	-.0720	.0199
-1	-.5307	.1105	.0624	-.0599	.0112	-1	-.5250	.1677	.0881	-.0609	.0187
0	-.4358	.1017	.0633	-.0513	.0101	0	-.4354	.1554	.0798	-.0502	.0177
1	-.3985	.0975	.0677	-.0436	.0095	1	-.3508	.1493	.0798	-.0401	.0170
2	-.3215	.0942	.0691	-.0351	.0092	2	-.2662	.1407	.0770	-.0314	.0161
3	-.2532	.0931	.0755	-.0274	.0089	3	-.1742	.1309	.0688	-.0203	.0155
5	-.0771	.0865	.0653	-.0073	.0086	5	.0597	.1248	.0468	.0068	.0145
7	.0925	.0898	.0609	.0120	.0084	7	.3583	.1309	-.0094	.0416	.0177
10	.4712	.142	-.0146	.0573	.0170	10	.6643	.1860	-.0881	.0787	.0268
15	.6694	.2338	-.0818	.0877	.0312	15	1.0177	.3267	-.1679	.1237	.0471
20	.7024	.3098	-.1193	.0936	.0406	20	1.0425	.4124	-.2119	.1304	.0606
25	.7222	.3919	-.1267	.0941	.0516						
M = 0.80						M = 1.00					
-10	-1.0957	.2956	.1405	-.1310	.0332	-10	-1.0153	.3539	.1555	-.1217	.0401
-7	-1.0514	.2265	.1111	-.1263	.0254	-7	-.8652	.2684	.1186	-.1027	.0313
-5	-.9628	.1867	.1046	-.1110	.0202	-5	-.7722	.2310	.1065	-.0907	.0267
-3	-.8004	.1466	.0849	-.0906	.0157	-3	-.6388	.1922	.0949	-.0750	.0221
-2	-.7118	.1322	.0849	-.0794	.0141	-2	-.5744	.1782	.0896	-.0666	.0205
-1	-.6173	.1212	.0931	-.0682	.0126	-1	-.4981	.1665	.0870	-.0579	.0193
0	-.5346	.1140	.0963	-.0591	.0117	0	-.4171	.1547	.0765	-.0481	.0180
1	-.4460	.1068	.0947	-.0493	.0110	1	-.3241	.1488	.0712	-.0379	.0174
2	-.3603	.1003	.0963	-.0396	.0106	2	-.2360	.1406	.0659	-.0278	.0163
3	-.2747	.0958	.0947	-.0295	.0100	3	-.1430	.1372	.0606	-.0167	.0160
5	-.0620	.0886	.0859	-.0049	.0095	5	.1239	.1348	.0211	.0143	.0157
7	.1447	.0958	.0771	.0034	.0098	7	.3670	.1430	-.0237	.0417	.0196
10	.5139	.1359	-.0164	.0622	.0183	10	.6459	.1958	-.0923	.0764	.0274
15	.7206	.2302	-.0963	.0926	.0332	15	.9748	.3306	-.1766	.1194	.0468
20	.7679	.3138	-.1325	.0981	.0433						
25	.8063	.4169	-.1522	.1012	.0555						
M = 0.85						M = 1.05					
-10	-1.1767	.3201	.1577	-.1433	.0361	-10	-.9713	.3338	.1466	-.1163	.0390
-7	-1.0990	.2470	.1596	-.1309	.0275	-7	-.8387	.2608	.1163	-.1003	.0310
-5	-.9935	.2027	.1627	-.1180	.0221	-5	-.7359	.2203	.1046	-.0874	.0261
-3	-.8576	.1618	.1412	-.0992	.0176	-3	-.6193	.1866	.0960	-.0719	.0220
-2	-.7632	.1433	.1289	-.0873	.0152	-2	-.5508	.1708	.0885	-.0639	.0203
-1	-.6688	.1310	.1228	-.0760	.0138	-1	-.4708	.1596	.0834	-.0550	.0187
0	-.5717	.1207	.1240	-.0652	.0125	0	-.3908	.1483	.0758	-.0457	.0176
1	-.4773	.1139	.1197	-.0539	.0119	1	-.3108	.1427	.0708	-.0364	.0169
2	-.3774	.1071	.1105	-.0415	.0112	2	-.2194	.1337	.0657	-.0253	.0162
3	-.2664	.1017	.0951	-.0307	.0108	3	-.1166	.1304	.0581	-.0142	.0156
5	-.0444	.0914	.0872	-.0043	.0099	5	.1371	.1315	.0152	.0169	.0154
7	.2054	.1024	.0565	.0243	.0115	7	.3519	.1439	-.0243	.0408	.0193
10	.6133	.1494	-.0154	.0711	.0212	10	.6033	.1933	-.0834	.0710	.0265
15	.7604	.2423	-.1191	.0981	.0350	15	.9233	.3226	-.1693	.1127	.0451
20	.8159	.3303	-.1535	.1040	.0328						
25	.8437	.4327	-.1719	.1067	.0578						
M = 0.90						M = 1.10					
-10	-1.1349	.3433	.1938	-.1396	.0376	-10	-.9361	.3242	.1434	-.1118	.0379
-7	-1.0277	.3241	.1735	-.1229	.0288	-7	-.8153	.2529	.1166	-.0969	.0303
-5	-.9179	.2790	.1533	-.1087	.0240	-5	-.7098	.2129	.1069	-.0841	.0255
-3	-.7871	.1736	.1417	-.0919	.0191	-3	-.5955	.1805	.0909	-.0700	.0218
-2	-.7087	.1505	.1330	-.0828	.0170	-2	-.5296	.1643	.0875	-.0619	.0198
-1	-.6171	.1375	.1244	-.0721	.0154	-1	-.4527	.1535	.0559	-.0529	.0186
0	-.5308	.1247	.1215	-.0619	.0140	0	-.3758	.1426	.0729	-.0435	.0176
1	-.4341	.1221	.1128	-.0508	.0136	1	-.3011	.1372	.0666	-.0350	.0168
2	-.3452	.1183	.1099	-.0401	.0130	2	-.2219	.1297	.0661	-.0256	.0163
3	-.2510	.1055	.1041	-.0279	.0117	3	-.0945	.1221	.0535	-.0111	.0155
5	-.0026	.0990	.0810	.0010	.0112	5	.1406	.1319	.0146	.0471	.0155
7	.3112	.1183	.0202	.0355	.0144	7	.3296	.1448	-.0233	.0388	.0191
10	.6381	.1633	-.0480	.0751	.0111	10	.5692	.1891	-.0778	.0674	.0257
15	.9126	.2726	-.1302	.1132	.0401	15	.8768	.3156	-.1604	.1080	.0432
20	.8865	.3498	-.1735	.1097	.0478						
25	.8734	.4527	-.1851	.1107	.0606						

TABLE 5.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL--Concluded

$$\frac{t}{c} = 0.06 \quad \frac{x_g}{c} = 1.00$$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-7	-1.1638	.2239	.2309	-.1367	.0215	-10	-1.3293	.3972	.3606	-.1568	.0437
-5	-1.0439	.1801	.1876	-.1212	.0174	-7	-1.2039	.3207	.3273	-.1412	.0356
-3	-.8795	.1475	.1965	-.1013	.0134	-5	-1.0283	.2528	.3107	-.1213	.0274
-2	-.7907	.1333	.1867	-.0906	.0124	-3	-.8728	.2048	.2929	-.1028	.0224
-1	-.7107	.1277	.1926	-.0832	.0116	-2	-.7775	.1850	.2774	-.0925	.0204
0	-.6308	.1202	.1916	-.0733	.0108	-1	-.6772	.1665	.2663	-.0804	.0183
1	-.5553	.1115	.1891	-.0643	.0104	0	-.5769	.1530	.2463	-.0701	.0163
2	-.4664	.1037	.1867	-.0548	.0093	1	-.4515	.1382	.2497	-.0565	.0152
3	-.3776	.0984	.1843	-.0453	.0088	2	-.3511	.1295	.2386	-.0448	.0134
5	-.1555	.0884	.1523	-.0194	.0083	3	-.2006	.1171	.2108	-.0287	.0128
7	.0800	.0884	.1229	.0056	.0084	5	.1254	.1135	.1220	.0078	.0128
10	.4664	.1475	-.0049	.0530	.0167	7	.3511	.1196	.0488	.0356	.0154
15	.6574	.2459	-.0909	.0841	.0317	10	.6822	.1912	-.0499	.0769	.0258
20	.7329	.3256	-.1499	.0953	.0413	15	1.0333	.3269	-.1498	.1218	.0455
25	.7329	.4096	-.1616	.0953	.0519	20	1.0534	.4194	-.2219	.1266	.0583
						25	1.0534	.5303	-.2386	.1266	.0712
M = 0.80						M = 1.00					
-10	-1.3551	.3529	.2767	-.1677	.0385	-10	-1.2738	.3960	.3562	-.1507	.0430
-7	-1.2508	.2622	.2569	-.1509	.0280	-7	-1.1152	.3002	.3136	-.1321	.0332
-5	-1.1466	.2088	.2503	-.1359	.0217	-5	-.9854	.2459	.3030	-.1162	.0268
-3	-.9679	.1669	.2306	-.1128	.0170	-3	-.8171	.1985	.2785	-.0975	.0218
-2	-.8369	.1494	.2207	-.0983	.0150	-2	-.7258	.1833	.2733	-.0877	.0196
-1	-.7416	.1355	.2273	-.0867	.0139	-1	-.6441	.1631	.2637	-.0770	.0178
0	-.6403	.1245	.2240	-.0758	.0126	0	-.5383	.1478	.2573	-.0658	.0160
1	-.5361	.1157	.2174	-.0648	.0118	1	-.4326	.1359	.2446	-.0541	.0145
2	-.4348	.1069	.2141	-.0532	.0108	2	-.3028	.1241	.2233	-.0392	.0132
3	-.3276	.0989	.2042	-.0411	.0100	3	-.1250	.1182	.1754	-.0205	.0132
5	-.0655	.0879	.1779	-.0121	.0093	5	.1538	.1241	.0957	.0121	.0140
7	.1906	.0989	.1516	.0168	.0098	7	.3653	.1418	.0372	.0378	.0177
10	.5390	.1435	-.0099	.0613	.0193	10	.6489	.1950	-.0436	.0719	.0257
15	.7267	.2380	-.0955	.0902	.0335	15	1.2497	.3368	-.1510	.1181	.0456
20	.8011	.3260	-.1515	.0989	.0436	20	1.2497	.5023	-.2233	.1484	.0693
25	.8309	.4321	-.1713	.1018	.0561						
M = 0.85						M = 1.05					
-10	-1.3703	.3714	.3217	-.1673	.0397	-10	-1.2218	.3854	.3457	-.1441	.0420
-7	-1.2520	.2806	.3093	-.1537	.0302	-7	-1.0504	.2879	.3111	-.1253	.0320
-5	-1.1969	.2269	.3093	-.1396	.0239	-5	-.9267	.2381	.2958	-.1106	.0258
-3	-1.0068	.1760	.2808	-.1162	.0185	-3	-.7838	.1916	.2753	-.0927	.0211
-2	-.8949	.1581	.2722	-.1043	.0163	-2	-.6916	.1723	.2651	-.0828	.0191
-1	-.7607	.1444	.2648	-.0896	.0143	-1	-.6086	.1576	.2550	-.0734	.0172
0	-.6712	.1306	.2549	-.0787	.0133	0	-.5072	.1418	.2488	-.0609	.0155
1	-.5593	.1183	.2474	-.0668	.0124	1	-.3688	.1270	.2264	-.0470	.0139
2	-.4251	.1100	.2289	-.0527	.0108	2	-.2305	.1191	.1897	-.0300	.0129
3	-.2797	.0990	.2072	-.0369	.0098	3	-.0876	.1134	.1499	-.0143	.0132
5	-.0280	.0893	.1763	-.0087	.0095	5	.1429	.1224	.0867	.0125	.0139
7	.2517	.1032	.1175	.0223	.0113	7	.3642	.1372	.0357	.0367	.0178
10	.6432	.1581	.0136	.0679	.0208	10	.6178	.1882	-.0438	.0685	.0252
15	.7830	.2545	-.1206	.0950	.0354	15	.9636	.3197	-.1387	.1110	.0434
20	.8446	.3438	-.1689	.1032	.0458	20	1.1987	.4954	-.2243	.1432	.0682
25	.8669	.4470	-.1856	.1048	.0583						
M = 0.90						M = 1.10					
-10	-1.3707	.3863	.3557	-.1633	.0417	-10	-1.1619	.3653	.3335	-.1382	.0407
-7	-1.1809	.2917	.3289	-.1449	.0319	-7	-1.0200	.2770	.3041	-.1206	.0315
-5	-1.1018	.2333	.3067	-.1290	.0257	-5	-.9003	.2235	.2805	-.1059	.0258
-3	-.9226	.1893	.2915	-.1085	.0207	-3	-.7539	.1799	.2648	-.0891	.0211
-2	-.8224	.1686	.2799	-.0973	.0184	-2	-.6652	.1635	.2550	-.0792	.0191
-1	-.7381	.1491	.2682	-.0865	.0163	-1	-.5765	.1472	.2502	-.0698	.0173
0	-.6274	.1426	.2624	-.0747	.0153	0	-.4790	.1364	.2452	-.0590	.0153
1	-.5008	.1348	.2507	-.0619	.0141	1	-.3326	.1200	.2079	-.0426	.0136
2	-.3954	.1166	.2391	-.0497	.0123	2	-.1774	.1134	.1717	-.0254	.0130
3	-.2636	.1064	.2216	-.0358	.0110	3	-.0443	.1091	.1324	-.0095	.0129
5	.0527	.0973	.1516	.0005	.0108	5	.1641	.1211	.0785	.0133	.0135
7	.3427	.1102	.0700	.0328	.0135	7	.3326	.1364	.0314	.0349	.0170
10	.6695	.1686	-.0233	.0752	.0234	10	.5677	.1854	-.0343	.0637	.0232
15	.8699	.2723	-.1306	.1039	.0386	15	.9136	.3108	-.1373	.1072	.0410
20	.9226	.3630	-.1866	.1095	.0487	20	1.1530	.4940	-.2158	.1373	.0650
25	.9226	.4667	-.1982	.1106	.0625						



TABLE 6.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL -

 $\frac{t}{c} = 0.06$ $\frac{x_h}{c} = \text{NONE}$

α , deg	C_L	C_D	C_M	C_L	C_n	α , deg	C_L	C_D	C_M	C_L	C_n
M = 0.60						M = 0.95					
-10	-.7202	.1236	-.0538	-.0866	.0148	-10	-.9217	.1973	.1877	-.1088	.0223
-7	-.5967	.0612	-.0103	-.0684	.0071	-7	-.6703	.1112	.1066	-.0780	.0122
-5	-.4377	.0290	.0021	-.0487	.0030	-5	-.4923	.0726	.0695	-.0566	.0071
-3	-.2712	.0170	-.0170	-.0291	.0015	-3	-.2933	.0402	.0301	-.0339	.0037
-2	-.1871	.0133	-.0186	-.0191	.0007	-2	-.1990	.0340	.0162	-.0217	.0028
-1	-.0935	.0097	-.0186	-.0094	.0003	-1	-.1047	.0263	.0047	-.0108	.0022
0	-.0131	.0092	-.0162	.0006	.0003	0	.0000	.0237	-.0056	.0017	.0022
1	.0748	.0123	-.0174	.0115	.0004	1	.0964	.0288	-.0162	.0136	.0026
2	.1515	.0174	-.0170	.0206	.0010	2	.2095	.0314	-.0301	.0264	.0040
3	.2432	.0253	-.0141	.0321	.0020	3	.3037	.0392	-.0417	.0376	.0052
5	.3947	.0410	-.0062	.0518	.0046	5	.5028	.0623	-.0765	.0614	.0099
7	.5574	.0741	-.0186	.0708	.0097	7	.6829	.1025	-.1205	.0834	.0160
10	.6884	.1407	-.0786	.0887	.0188	10	.9301	.1808	-.1877	.1142	.0279
15	.6996	.2282	-.1266	.0978	.0322						
20	.7108	.3090	-.1241	.0978	.0434						
25	.7389	.3983	-.1345	.0990	.0554						
M = 0.80						M = 1.00					
-10	-.8232	.1491	.0662	-.1013	.0166	-10	-.8527	.1860	.1731	-.1003	.0217
-7	-.6810	.0797	.0195	-.0803	.0084	-7	-.6280	.1115	.1021	-.0730	.0123
-5	-.5338	.0412	-.0005	-.0610	.0041	-5	-.4715	.0745	.0688	-.0539	.0078
-3	-.3243	.0178	-.0083	-.0351	.0015	-3	-.2909	.0484	.0355	-.0325	.0046
-2	-.2120	.0122	-.0027	-.0226	.0008	-2	-.1906	.0399	.0222	-.0208	.0037
-1	-.1123	.0099	-.0014	-.0105	.0005	-1	-.0903	.0340	.0045	-.0088	.0033
0	-.0050	.0074	.0011	.0016	.0004	0	.0080	.0301	-.0080	.0023	.0030
1	.1023	.0099	-.0019	.0178	.0007	1	.1003	.0326	-.0200	.0133	.0034
2	.2095	.0128	.0027	.0266	.0014	2	.2107	.0380	-.0377	.0263	.0046
3	.3143	.0160	.0052	.0392	.0028	3	.3050	.0444	-.0546	.0377	.0066
5	.5363	.0405	-.0061	.0666	.0064	5	.4815	.0686	-.0843	.0591	.0103
7	.6735	.0773	-.0290	.0852	.0116	7	.6420	.1021	-.1154	.0782	.0157
10	.8132	.1417	-.0621	.1050	.0213	10	.8647	.1757	-.1740	.1065	.0266
15	.7409	.2300	-.1228	.1001	.0332						
20	.7908	.3202	-.1435	.1033	.0467						
M = 0.85						M = 1.05					
-10	-.8188	.1847	.0841	-.1011	.0177	-10	-.8005	.1756	.1554	-.0934	.0203
-7	-.6855	.0875	.0453	-.0821	.0097	-7	-.5946	.1051	.0936	-.0685	.0121
-5	-.5451	.0495	.0233	-.0632	.0050	-5	-.4387	.0710	.0638	-.0498	.0078
-3	-.3509	.0201	.0039	-.0390	.0017	-3	-.2675	.0464	.0319	-.0299	.0049
-2	-.2340	.0092	-.0008	.0125	.0007	-2	-.1828	.0393	.0200	-.0193	.0039
-1	-.1123	.0063	.0000	-.0114	.0005	-1	-.0885	.0345	.0064	-.0087	.0037
0	.0000	.0063	-.0003	.0019	.0004	0	.0077	.0313	-.0085	.0022	.0034
1	.1100	.0092	-.0034	.0148	.0010	1	.0962	.0336	-.0213	.0131	.0038
2	.2386	.0132	-.0026	.0299	.0017	2	.1886	.0407	-.0345	.0243	.0048
3	.3509	.0190	-.0078	.0432	.0035	3	.2771	.0478	-.0511	.0352	.0065
5	.5498	.0471	-.0362	.0685	.0076	5	.4522	.0691	-.0779	.0557	.0105
7	.6902	.0840	-.0569	.0863	.0132	7	.6004	.1022	-.1085	.0741	.0154
10	.8422	.1502	-.0841	.1071	.0229	10	.8082	.1708	-.1618	.1000	.0255
15	.7837	.2364	-.1371	.1033	.0349						
20	.8539	.3578	-.1604	.1075	.0493						
25	.8656	.4326	-.1749	.1102	.0629						
M = 0.90						M = 1.10					
-10	-.8918	.1819	.1388	-.1072	.0208	-10	-.7678	.1665	.1473	-.0895	.0195
-7	-.6826	.0942	.0804	-.0809	.0111	-7	-.5680	.1019	.0929	-.0653	.0118
-5	-.5197	.0574	.0511	-.0613	.0061	-5	-.4200	.0687	.0634	-.0479	.0077
-3	-.3347	.0276	.0292	-.0385	.0026	-3	-.2572	.0450	.0319	-.0278	.0048
-2	-.2422	.0195	.0195	-.0271	.0014	-2	-.1739	.0391	.0205	-.0180	.0042
-1	-.1211	.0141	.0073	-.0132	.0010	-1	-.0833	.0346	.0041	-.0075	.0039
0	.0066	.0113	-.0049	.0021	.0009	0	.0056	.0323	-.0061	.0030	.0037
1	.1101	.0141	-.0146	.0153	.0014	1	.0925	.0346	-.0217	.0135	.0041
2	.2312	.0206	-.0244	.0296	.0028	2	.1758	.0401	-.0327	.0237	.0052
3	.3325	.0282	-.0341	.0413	.0043	3	.2646	.0450	-.0483	.0338	.0070
5	.5241	.0520	-.0609	.0645	.0090	5	.4329	.0692	-.0757	.0539	.0102
7	.6848	.0898	-.0901	.0848	.0151	7	.5735	.1051	-.1043	.0718	.0156
10	.8940	.1629	-.1364	.1108	.0260	10	.7733	.1697	-.1535	.0961	.0245

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TABLE 6 -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL - Continued

 $\frac{t}{c} = 0.06$ $\frac{x}{c} = 0.40$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.6065	.2246	-.0314	-.0739	.0261	-10	-.7015	.3213	-.0003	-.0840	.0404
-7	-.7300	.1877	-.0398	-.0866	.0213	-7	-.5671	.2644	-.0455	-.0676	.0326
-5	-.6851	.1511	-.0646	-.0794	.0170	-5	-.4831	.2376	-.0620	-.0564	.0293
-3	-.5354	.1265	-.0795	-.0582	.0138	-3	-.4096	.2076	-.0769	-.0479	.0261
-2	-.4755	.1192	-.0812	-.0503	.0132	-2	-.3676	.1973	-.0827	-.0428	.0246
-1	-.4118	.1146	-.0812	-.0430	.0129	-1	-.3151	.1869	-.0897	-.0360	.0236
0	-.3557	.1123	-.0745	-.0339	.0128	0	-.2521	.1818	-.0966	-.0279	.0230
1	-.2920	.1123	-.0812	-.0267	.0129	1	-.1680	.1766	-.1083	-.0187	.0228
2	-.2321	.1146	-.0696	-.0194	.0132	2	-.0945	.1766	-.1120	-.0092	.0233
3	-.1572	.1151	-.0596	-.0109	.0139	3	-.0315	.1766	-.1189	-.0014	.0236
5	-.0487	.1247	-.0779	.0030	.0155	5	.1155	.1942	-.1329	.0163	.0261
7	.0749	.1353	-.0762	.0188	.0167	7	.2626	.2128	-.1515	.0347	.0293
10	.4380	.1533	-.0828	.0600	.0203	10	.6259	.2542	-.1701	.0768	.0371
15	.7225	.2375	-.1044	.0957	.0347	15	.9977	.3316	-.2119	.1241	.0502
20	.7300	.3139	-.1176	.0981	.0431	20	1.1973	.4659	-.2425	.1475	.0684
25	.7487	.4013	-.1308	.0987	.0535						
M = 0.80						M = 1.00					
-10	-.5492	.2339	-.0342	-.0711	.0285	-10	-.6739	.3126	.0002	-.0801	.0382
-7	-.8238	.2154	-.0232	-.1046	.0256	-7	-.5432	.2582	-.0443	-.0638	.0320
-5	-.7788	.1847	-.0232	-.0977	.0218	-5	-.4627	.2305	-.0625	-.0537	.0289
-3	-.6815	.1479	-.0397	-.0820	.0174	-3	-.3782	.2087	-.0792	-.0436	.0262
-2	-.6390	.1357	-.0397	-.0747	.0160	-2	-.3219	.1935	-.0881	-.0365	.0253
-1	-.5691	.1216	-.0508	-.0650	.0145	-1	-.2615	.1939	-.0970	-.0293	.0245
0	-.4743	.1166	-.0508	-.0533	.0142	0	-.1972	.1890	-.1048	-.0215	.0240
1	-.3969	.1123	-.0497	-.0432	.0142	1	-.1207	.1840	-.1184	-.0127	.0240
2	-.3145	.1136	-.0497	-.0335	.0143	2	-.0302	.1850	-.1246	-.0039	.0242
3	-.2371	.1142	-.0508	-.0238	.0150	3	.0101	.1890	-.1317	.0049	.0250
5	-.0849	.1234	-.0563	-.0053	.0165	5	.1469	.2038	-.1428	.0202	.0271
7	.0474	.1302	-.0574	.0105	.0179	7	.2716	.2187	-.1540	.0355	.0296
10	.4493	.1473	-.0673	.0574	.0213	10	.5995	.2572	-.1673	.0736	.0357
15	.7614	.2278	-.0961	.0973	.0342						
20	.8113	.3155	-.1259	.1026	.0445						
M = 0.85						M = 1.05					
-10	-.7377	.2655	-.0365	-.0951	.0320	-10	-.6464	.2998	.0008	-.0771	.0369
-7	-.8009	.2309	-.0198	-.1016	.0280	-7	-.5267	.2486	-.0418	-.0618	.0337
-5	-.7845	.2021	.0127	-.0978	.0243	-5	-.4476	.2239	-.0589	-.0518	.0292
-3	-.7260	.1705	.0130	-.0879	.0203	-3	-.3627	.2050	-.0760	-.0415	.0257
-2	-.6838	.1532	.0098	-.0815	.0184	-2	-.3087	.1955	-.0813	-.0353	.0247
-1	-.6206	.1388	.0023	-.0728	.0168	-1	-.2508	.1888	-.0941	-.0278	.0242
0	-.5269	.1273	-.0145	-.0606	.0158	0	-.1893	.1831	-.1026	-.0197	.0236
1	-.4215	.1227	-.0249	-.0477	.0154	1	-.1196	.1813	-.1140	-.0119	.0235
2	-.3419	.1221	-.0249	-.0379	.0156	2	-.0502	.1813	-.1204	-.0041	.0238
3	-.2693	.1227	-.0288	-.0288	.0161	3	.0096	.1860	-.1263	.0041	.0244
5	-.0937	.1279	-.0547	-.0076	.0172	5	.1351	.2002	-.1370	.0187	.0265
7	.0703	.1382	-.0676	.0125	.0189	7	.2605	.2145	-.1481	.0340	.0289
10	.4450	.1589	-.0850	.0568	.0226	10	.5595	.2524	-.1541	.0684	.0351
15	.7962	.2338	-.1137	.1008	.0352						
20	.8665	.3351	-.1456	.1088	.0499						
25	.8782	.4330	-.1637	.1099	.0599						
M = 0.90						M = 1.10					
-10	-.7589	.2975	-.0197	-.0929	.0358	-10	-.6217	.2884	-.0023	-.0742	.0360
-7	-.7303	.2499	-.0003	-.0893	.0299	-7	-.5103	.2419	-.0372	-.0601	.0324
-5	-.6709	.2228	-.0075	-.0815	.0260	-5	-.4361	.2191	-.0556	-.0504	.0273
-3	-.6049	.1828	-.0124	-.0726	.0222	-3	-.3526	.1980	-.0710	-.0399	.0252
-2	-.5609	.1687	-.0136	-.0673	.0206	-2	-.2969	.1917	-.0772	-.0333	.0242
-1	-.5059	.1526	-.0221	-.0602	.0192	-1	-.2412	.1834	-.0884	-.0264	.0234
0	-.4422	.1472	-.0282	-.0513	.0191	0	-.1856	.1789	-.0967	-.0198	.0230
1	-.3740	.1396	-.0355	-.0402	.0190	1	-.1169	.1761	-.1092	-.0117	.0230
2	-.2750	.1407	-.0416	-.0303	.0191	2	-.0557	.1789	-.1149	-.0042	.0233
3	-.2156	.1363	-.0440	-.0224	.0192	3	.0074	.1825	-.1215	.0036	.0237
5	-.0704	.1418	-.0550	-.0053	.0195	5	.1262	.1962	-.1318	.0183	.0249
7	.0880	.1526	-.0781	.0153	.0194	7	.2412	.2108	-.1416	.0324	.0272
10	.4949	.1958	-.1294	.0662	.0277	10	.5289	.2474	-.1482	.0658	.0335
15	.8601	.2607	-.1197	.1089	.0388						
20	.9459	.3635	-.1732	.1196	.0546						
25	.9349	.4609	-.1854	.1171	.0648						

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TABLE 6.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL - Continued

 $\frac{t}{c} = 0.06$ $\frac{x}{c} = 0.60$

α , deg	C_L	C_D	C_M	C_l	C_n	α , deg	C_L	C_D	C_M	C_l	C_n
M = 0.60						M = 0.95					
-10	-.9209	.2736	.0565	-.1113	.0296	-10	-.8626	.3631	.0186	-.1021	.0421
-7	-.9472	.2071	.0399	-.1113	.0219	-7	-.7364	.2908	-.0047	-.0868	.0343
-5	-.8382	.1618	-.0083	-.0955	.0168	-5	-.6459	.2546	-.0186	-.0759	.0295
-3	-.6465	.1312	-.0316	-.0718	.0137	-3	-.5575	.2214	-.0279	-.0647	.0256
-2	-.5751	.1239	-.0199	-.0626	.0124	-2	-.5049	.2069	-.0307	-.0582	.0238
-1	-.5037	.1146	-.0233	-.0547	.0119	-1	-.4355	.1977	-.0326	-.0500	.0227
0	-.4398	.1118	-.0199	-.0462	.0114	0	-.3577	.1873	-.0372	-.0409	.0219
1	-.3684	.1071	-.0199	-.0383	.0109	1	-.2798	.1800	-.0419	-.0310	.0214
2	-.2969	.1054	-.0199	-.0304	.0109	2	-.2062	.1769	-.0438	-.0218	.0212
3	-.2293	.1045	-.0193	-.0213	.0111	3	-.1304	.1748	-.0512	-.0129	.0212
5	-.0827	.1017	-.0166	-.0030	.0119	5	.0463	.1748	-.0605	.0082	.0219
7	.0752	.1064	-.0133	.0152	.0119	7	.2840	.1790	-.0745	.0354	.0233
10	.5150	.1460	-.0632	.0657	.0189	10	.6733	.2183	-.1303	.0814	.0305
15	.6984	.2781	-.1131	.0924	.0318	15	1.0099	.3374	-.1862	.1246	.0489
20	.7367	.3114	-.1297	.0973	.0420						
25	.7705	.4048	-.1430	.1004	.0532						
M = 0.80						M = 1.00					
-10	-1.0326	.3094	.0399	-.1278	.0343	-10	-.8302	.3558	.0205	-.0972	.0395
-7	-1.0075	.2515	.0543	-.1217	.0272	-7	-.7154	.2884	-.0045	-.0828	.0331
-5	-.9424	.2108	.0488	-.1093	.0225	-5	-.6267	.2537	-.0169	-.0724	.0289
-3	-.8221	.1701	.0366	-.0925	.0178	-3	-.5340	.2220	-.0330	-.0603	.0255
-2	-.7318	.1491	.0177	-.0811	.0157	-2	-.4736	.2091	-.0401	-.0531	.0242
-1	-.6366	.1343	.0133	-.0689	.0141	-1	-.4131	.1992	-.0401	-.0450	.0230
0	-.5489	.1269	.0200	-.0596	.0133	0	-.3385	.1912	-.0472	-.0365	.0223
1	-.4587	.1196	.0122	-.0487	.0131	1	-.2579	.1863	-.0535	-.0271	.0220
2	-.3684	.1159	.0111	-.0385	.0130	2	-.1814	.1814	-.0553	-.0183	.0219
3	-.2832	.1147	.0078	-.0280	.0131	3	-.1048	.1793	-.0588	-.0088	.0219
5	-.0977	.1122	.0044	-.0061	.0134	5	.0605	.1793	-.0651	.0108	.0223
7	.0952	.1122	.0011	.0162	.0134	7	.2962	.1824	-.0758	.0378	.0236
10	.5389	.1578	-.0532	.0673	.0194	10	.6589	.2190	-.1311	.0812	.0305
15	.7745	.2391	-.1198	.1014	.0345	15	.9814	.3459	-.1935	.1216	.0487
20	.8095	.3303	-.1364	.1034	.0442						
M = 0.85						M = 1.05					
-10	-1.0342	.3260	.0593	-.1255	.0364	-10	-.8081	.3433	.0197	-.0942	.0397
-7	-1.0037	.2670	.0842	-.1187	.0292	-7	-.6921	.2767	-.0043	-.0801	.0319
-5	-.9238	.2278	.0759	-.1073	.0248	-5	-.6129	.2434	-.0128	-.0704	.0279
-3	-.8156	.1862	.0645	-.0936	.0202	-3	-.5162	.2139	-.0316	-.0582	.0247
-2	-.7545	.1699	.0582	-.0856	.0182	-2	-.4582	.2006	-.0342	-.0513	.0232
-1	-.6840	.1515	.0437	-.0768	.0166	-1	-.3963	.1930	-.0385	-.0435	.0225
0	-.5806	.1399	.0395	-.0647	.0155	0	-.3287	.1844	-.0445	-.0350	.0217
1	-.4889	.1317	-.0125	-.0532	.0148	1	-.2513	.1787	-.0505	-.0263	.0213
2	-.3996	.1272	.0354	-.0426	.0146	2	-.1798	.1768	-.0513	-.0175	.0213
3	-.3150	.1226	.0301	-.0319	.0141	3	-.1063	.1740	-.0573	-.0088	.0213
5	-.0870	.1179	.0021	-.0057	.0146	5	.0541	.1750	-.0599	.0106	.0216
7	.1340	.1226	-.0063	.0198	.0149	7	.2900	.1797	-.0718	.0379	.0232
10	.5665	.2197	-.0551	.0700	.0220	10	.6187	.2149	-.1240	.0766	.0294
15	.8297	.2532	-.1341	.1057	.0220	15	.9377	.3385	-.1856	.1161	.0472
20	.8626	.3433	-.1497	.1084	.0477						
25	.8862	.4485	-.1643	.1122	.0638						
M = 0.90						M = 1.10					
-10	-1.0022	.3514	.0734	-.1181	.0394	-10	-.7679	.3283	.0206	-.0897	.0379
-7	-.9004	.2785	.0636	-.1060	.0314	-7	-.6694	.2706	-.0041	-.0773	.0310
-5	-.8252	.2351	.0538	-.0952	.0262	-5	-.5950	.2369	-.0148	-.0674	.0272
-3	-.7234	.1969	.0460	-.0845	.0218	-3	-.4946	.2076	-.0271	-.0554	.0238
-2	-.6637	.1806	.0392	-.0773	.0197	-2	-.4407	.1976	-.0288	-.0487	.0225
-1	-.5929	.1665	.0342	-.0680	.0185	-1	-.3775	.1884	-.0370	-.0406	.0216
0	-.5133	.1534	.0294	-.0580	.0175	0	-.3124	.1802	-.0411	-.0325	.0210
1	-.4314	.1458	.0225	-.0480	.0168	1	-.2417	.1747	-.0469	-.0247	.0206
2	-.3429	.1426	.0225	-.0376	.0163	2	-.1766	.1719	-.0493	-.0162	.0206
3	-.2500	.1404	.0147	-.0272	.0163	3	-.1078	.1618	-.0535	-.0078	.0208
5	-.0730	.1316	.0049	-.0057	.0163	5	.0502	.1700	-.0584	.0111	.0209
7	.2057	.1447	-.0392	.0272	.0177	7	.2789	.1747	-.0633	.0379	.0228
10	.6261	.1861	-.0900	.0759	.0257	10	.5764	.2131	-.1127	.0731	.0288
15	.9624	.2970	-.1390	.1196	.0437	15	.8869	.3319	-.1769	.1125	.0457

TABLE 6. -- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL *Continued

 $\frac{x}{c} = 0.06$
 $\frac{y}{c} = 0.80$

α , deg	C_L	C_D	C_M	C_i	C_n	α , deg	C_L	C_D	C_M	C_i	C_n
M = 0.60						M = 0.95					
-10	-1.0874	.2997	.1540	-.1393	.0321	-10	-1.1151	.3932	.1722	-.1355	.0440
-7	-1.1062	.2258	.1165	-.1324	.0229	-7	-.9678	.3062	.1349	-.1185	.0343
-5	-.9670	.1712	.0724	-.1142	.0168	-5	-.8584	.2587	.1210	-.1062	.0287
-3	-.7525	.1407	.0582	-.0901	.0136	-3	-.7322	.2163	.1047	-.0906	.0238
-2	-.6697	.1296	.0507	-.0801	.0123	-2	-.6438	.1997	.0991	-.0810	.0222
-1	-.5945	.1119	.0599	-.0712	.0112	-1	-.5681	.1842	.0931	-.0715	.0204
0	-.5155	.1110	.0625	-.0612	.0104	0	-.4755	.1707	.0856	-.0606	.0189
1	-.4402	.1046	.0616	-.0530	.0096	1	-.3787	.1604	.0815	-.0507	.0179
2	-.3650	.1018	.0666	-.0444	.0093	2	-.2819	.1532	.0759	-.0388	.0171
3	-.2822	.0954	.0641	-.0350	.0090	3	-.1767	.1449	.0698	-.0269	.0163
5	-.0753	.0869	.0582	-.0116	.0089	5	.1136	.1335	.0419	.0051	.0147
7	.1129	.0926	.0474	.0107	.0087	7	.4208	.1449	.0256	.0412	.0186
10	.5268	.1462	-.0458	.0594	.0185	10	.7364	.2069	-.1024	.0793	.0284
15	.6961	.2406	-.0941	.0868	.0328	15	1.0856	.3569	-.1885	.1232	.0496
20	.7375	.3238	-.1248	.0928	.0436						
M = 0.80						M = 1.00					
-10	-1.2285	.3366	.1553	-.1574	.0180	-10	-1.0684	.3817	.1694	-.1295	.0428
-7	-1.2034	.2651	.1608	-.1493	.0289	-7	-.9273	.2964	.1288	-.1125	.0356
-5	-1.1357	.2170	.1636	-.1383	.0233	-5	-.8265	.2499	.1159	-.1008	.0281
-3	-.9201	.1665	.1109	-.1128	.0175	-3	-.6934	.2082	.1026	-.0858	.0236
-2	-.7998	.1418	.0943	-.0990	.0152	-2	-.6249	.1933	.0923	-.0770	.0219
-1	-.7020	.1307	.0971	-.0872	.0139	-1	-.5362	.1784	.0914	-.0678	.0202
0	-.5967	.1196	.0998	-.0751	.0126	0	-.4435	.1685	.0861	-.0574	.0188
1	-.4914	.1109	.0982	-.0637	.0117	1	-.3628	.1586	.0781	-.0473	.0180
2	-.3861	.1048	.0971	-.0515	.0111	2	-.2621	.1497	.0749	-.0365	.0172
3	-.2833	.0987	.0361	-.0398	.0101	3	-.1411	.1427	.0691	-.0232	.0164
5	-.0376	.0888	.0832	-.0122	.0100	5	.1613	.1388	.0223	.0114	.0156
7	.2231	.0987	.0665	.0170	.0112	7	.4032	.1507	.0290	.0398	.0195
10	.6268	.1504	-.0166	.0649	.0197	10	.6934	.2062	-.1003	.0747	.0277
15	.7647	.2478	-.1170	.0925	.0350	15	1.0402	.3489	-.1815	.1174	.0492
20	.8148	.3366	-.1470	.0974	.0463						
M = 0.85						M = 1.05					
-10	-1.2881	.3641	.2054	-.1563	.0392	-10	-1.0250	.3662	.1604	-.1236	.0415
-7	-1.1988	.2775	.1898	-.1438	.0304	-7	-.8935	.2854	.1283	-.1080	.0325
-5	-1.1048	.2312	.1846	-.1316	.0246	-5	-.7929	.2407	.1112	-.0964	.0274
-3	-.9543	.1792	.1622	-.1156	.0195	-3	-.6653	.2045	.1027	-.0820	.0229
-2	-.8603	.1595	.1544	-.1042	.0169	-2	-.5995	.1884	.0963	-.0739	.0214
-1	-.7428	.1422	.1477	-.0913	.0149	-1	-.5222	.1741	.0899	-.0648	.0201
0	-.6346	.1295	.1352	-.0784	.0137	0	-.4371	.1626	.0843	-.0551	.0187
1	-.5312	.1191	.1279	-.0666	.0128	1	-.3443	.1522	.0770	-.0448	.0175
2	-.4231	.1098	.1196	-.0540	.0117	2	-.2437	.1436	.0740	-.0335	.0166
3	-.3056	.1064	.1118	-.0407	.0109	3	-.1276	.1379	.0654	-.0210	.0162
5	-.0235	.0925	.0858	-.0095	.0102	5	.1663	.1379	.0162	.0141	.0154
7	.2821	.1064	.0416	.0255	.0131	7	.3791	.1503	-.0265	.0385	.0195
10	.6911	.1630	-.0364	.0730	.0219	10	.6382	.1998	-.0899	.0692	.0264
15	.8227	.2543	-.1315	.0962	.0370	15	.9786	.3348	-.1763	.1114	.0457
20	.8603	.3468	-.1549	.1004	.0481						
25	.8791	.4635	-.1731	.0993	.0610						
M = 0.90						M = 1.10					
-7	-1.0929	.2916	.1860	-.1317	.0319	-10	-.9855	.3493	.1481	-.1182	.0404
-5	-.9734	.239	.1605	-.1192	.0262	-7	-.8553	.2734	.1234	-.1038	.0313
-3	-.8318	.1937	.1444	-.1027	.0209	-5	-.7624	.2352	.1110	-.0927	.0264
-2	-.7522	.1741	.1395	-.0934	.0189	-3	-.6434	.1966	.0987	-.0785	.0223
-1	-.6637	.1611	.1297	-.0827	.0171	-2	-.5764	.1811	.0926	-.0707	.0208
0	-.5619	.1469	.1223	-.0709	.0160	-1	-.4946	.1692	.0905	-.0623	.0192
1	-.4602	.1338	.1199	-.0601	.0144	0	-.4202	.1573	.0823	-.0530	.0179
2	-.3540	.1251	.1126	-.0483	.0137	1	-.3273	.1463	.0740	-.0427	.0169
3	-.2434	.1175	.1052	-.0358	.0125	2	-.2268	.1381	.0720	-.0322	.0163
5	.0354	.1055	.0783	-.0050	.0113	3	-.1078	.1326	.0617	-.0184	.0154
7	.4071	.1229	-.0010	.0376	.0154	5	.1673	.1326	.0144	.0141	.0153
10	.7212	.1883	-.0734	.0777	.0256	7	.3607	.1481	-.0259	.0370	.0190
15	1.0840	.3318	-.1580	.1228	.0305	10	.5987	.1966	-.0835	.0662	.0258
20	.9292	.3699	-.1835	.1081	.0509	15	.9297	.3247	-.1666	.1065	.0440
25	.9292	.4733	-.1894	.1074	.0540						

TABLE 6.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL--Concluded

 $\frac{x}{c} = 0.06$
 $\frac{x}{c} = 1.00$

α , deg	C_L	C_D	C_H	C_i	C_n	α , deg	C_L	C_D	C_H	C_i	C_n
M = 0.60						M = 0.95					
-10	-1.2354	.3296	.3031	-.1654	.0337	-5	-1.0429	.2668	.3243	-.1254	.0276
-7	-1.2392	.2458	.2319	-.1605	.0239	-3	-.8921	.2121	.2918	-.1074	.0231
-5	-1.0931	.1842	.1987	-.1405	.0168	-2	-.8083	.1946	.2872	-.0979	.0206
-3	-.9284	.1527	.2037	-.1212	.0134	-1	-.7162	.1761	.2779	-.0878	.0188
-2	-.8461	.1426	.2054	-.1109	.0123	0	-.6073	.1606	.3150	-.0759	.0170
-1	-.7600	.1344	.2070	-.1012	.0116	1	-.4942	.1452	.2594	-.0637	.0156
0	-.6626	.1252	.2004	-.0909	.0104	2	-.3644	.1308	.2474	-.0535	.0138
1	-.5690	.1187	.2103	-.0800	.0093	3	-.2010	.1205	.2177	-.0325	.0127
2	-.4904	.1104	.1938	-.0709	.0090	5	.1382	.1143	.1205	.0064	.0125
3	-.4043	.1050	.1954	-.0606	.0083	7	.3979	.1246	.0371	.0373	.0162
5	-.1722	.0930	.1673	-.0333	.0075	10	.6952	.1915	-.0463	.0739	.0256
7	.0786	.0893	.1375	-.0048	.0080	15	1.0596	.3306	-.1529	.1203	.0471
10	.4867	.1454	-.0049	.0466	.0167						
15	.6701	.2385	-.0861	.0775	.0312						
20	.7525	.3186	-.1275	.0890	.0428						
25	.7600	.3968	-.1308	.0890	.0521						
M = 0.80						M = 1.00					
-7	-1.3720	.2895	.3244	-.1647	.0300	-5	-1.0025	.2524	.2706	-.1178	.0280
-5	-1.2523	.2306	.3057	-.1494	.0237	-3	-.8541	.2031	.2927	-.1016	.0233
-3	-1.0477	.1816	.2781	-.1259	.0177	-2	-.7739	.1805	.2838	-.0915	.0210
-2	-.9230	.1595	.2549	-.1122	.0157	-1	-.6737	.1627	.2750	-.0805	.0190
-1	-.8182	.1436	.2505	-.1009	.0145	0	-.5734	.1479	.2679	-.0688	.0171
0	-.7035	.1312	.2450	-.0884	.0133	1	-.4652	.1331	.2572	-.0574	.0155
1	-.5837	.1202	.2351	-.0747	.0121	2	-.3128	.1193	.2351	-.0402	.0138
2	-.4690	.1116	.1159	-.0626	.0109	3	-.1363	.1095	.1907	-.0217	.0134
3	-.3393	.1050	.2152	-.0488	.0100	5	.1684	.1144	.1064	.0123	.0141
5	-.0549	.0883	.1810	-.0170	.0089	7	.3689	.1292	.0488	.0373	.0179
7	.2345	.0969	.1369	.0161	.0100	10	.6496	.1825	-.0399	.0727	.0260
10	.6087	.1484	.0364	.0626	.0186	15	1.0105	.3185	-.1419	.1162	.0460
15	.7733	.2453	-.1004	.0932	.0338						
20	.8232	.3300	-.1490	.1029	.0449						
M = 0.85						M = 1.05					
-5	-1.1834	.2363	.3207	-.1419	.0245	-5	-1.1542	.2422	.3064	-.1127	.0276
-3	-1.0384	.1846	.2897	-.1219	.0190	-3	-.8195	.1902	.2851	-.0965	.0231
-2	-.9449	.1645	.2814	-.1113	.0170	-2	-.7387	.1759	.2877	-.0875	.0201
-1	-.8326	.1472	.2742	-.0988	.0145	-1	-.6463	.1571	.2723	-.0778	.0182
0	-.7157	.1334	.2742	-.0863	.0136	0	-.5463	.1400	.2723	-.0660	.0169
1	-.5987	.1214	.3156	-.0734	.0121	1	-.4155	.1248	.2468	-.0520	.0149
2	-.4818	.1098	.2587	-.0602	.0112	2	-.2424	.1135	.2043	-.0333	.0131
3	-.3181	.1007	.2173	-.0428	.0100	3	-.0846	.1088	.1574	-.0140	.0130
5	-.0140	.0897	.1811	-.0098	.0096	5	.1731	.1145	.0936	.0146	.0142
7	.3087	.1070	.1035	.0276	.0118	7	.3732	.1287	.0400	.0380	.0176
10	.8794	.1530	.0093	.0700	.0203	10	.6040	.1778	-.0340	.0682	.0246
15	.8045	.2479	-.1190	.0988	.0355	15	.9618	.3132	-.1378	.1114	.0139
20	.8513	.3347	-.1604	.1022	.0471						
25	.8747	.4324	-.1655	.1041	.0589						
M = 0.90						M = 1.10					
-5	-1.1142	.2496	.3215	-.1325	.0265	-5	-.9250	.2329	.3004	-.1078	.0265
-3	-.9601	.2009	.2942	-.1147	.0215	-3	-.7807	.1874	.2783	-.0919	.0219
-2	-.8720	.1792	.2874	-.1051	.0191	-2	-.6993	.1692	.2701	-.0829	.0201
-1	-.7619	.1657	.2825	-.0926	.0179	-1	-.6068	.1511	.2537	-.0727	.0179
0	-.6518	.1511	.2728	-.0805	.0159	0	-.5106	.1347	.2545	-.0611	.0159
1	-.5417	.1370	.2552	-.0684	.0145	1	-.3774	.1192	.2308	-.0458	.0141
2	-.4140	.1248	.2533	-.0552	.0135	2	-.1924	.1101	.1842	-.0254	.0129
3	-.2774	.1089	.2328	-.0396	.0111	3	-.0629	.1055	.1473	-.0111	.0131
5	.0837	.0953	.1510	.0007	.0102	5	.1591	.1146	.0884	.0153	.0139
7	.4052	.1115	.0536	.0367	.0137	7	.3441	.1310	.0368	.0371	.0172
10	.7134	.1711	-.0390	.0773	.0319	10	.5809	.1783	.0900	.0659	.0240
15	1.0834	.3151	-.1364	.1211	.0452	15	.9176	.3057	-.1309	.1072	.0420

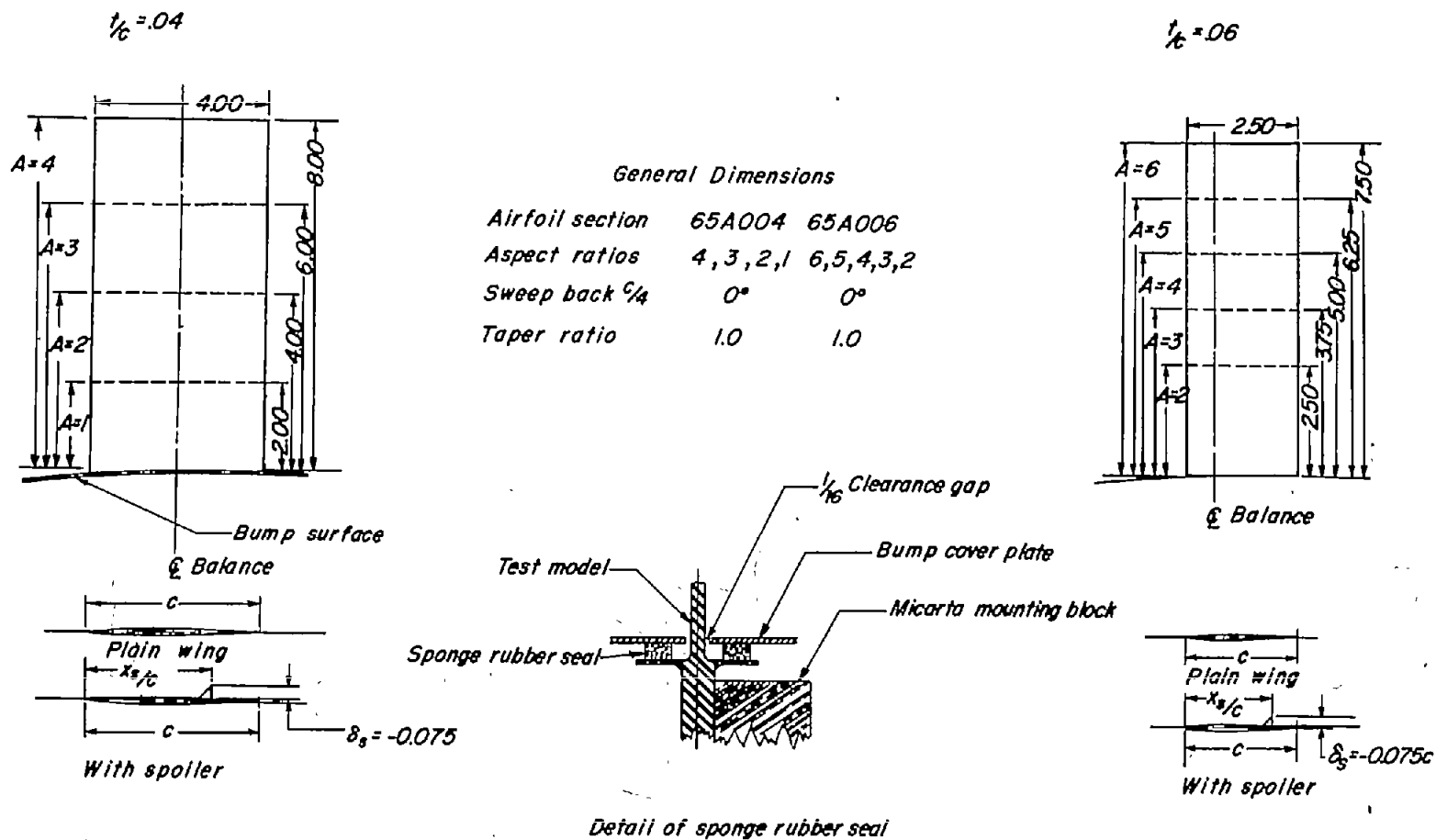


Figure 1.- General dimensions and model geometry. All dimensions in inches unless otherwise noted.

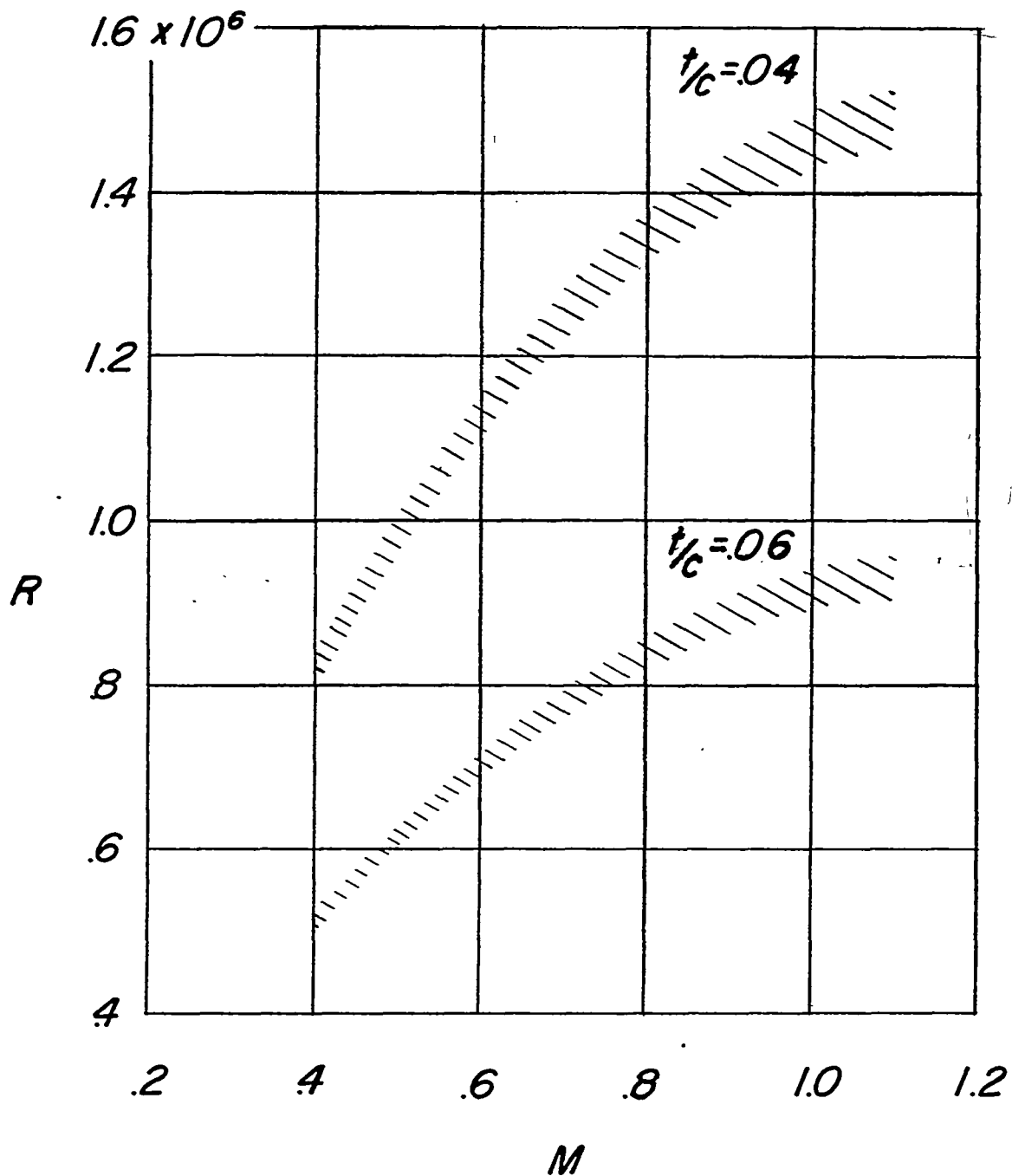
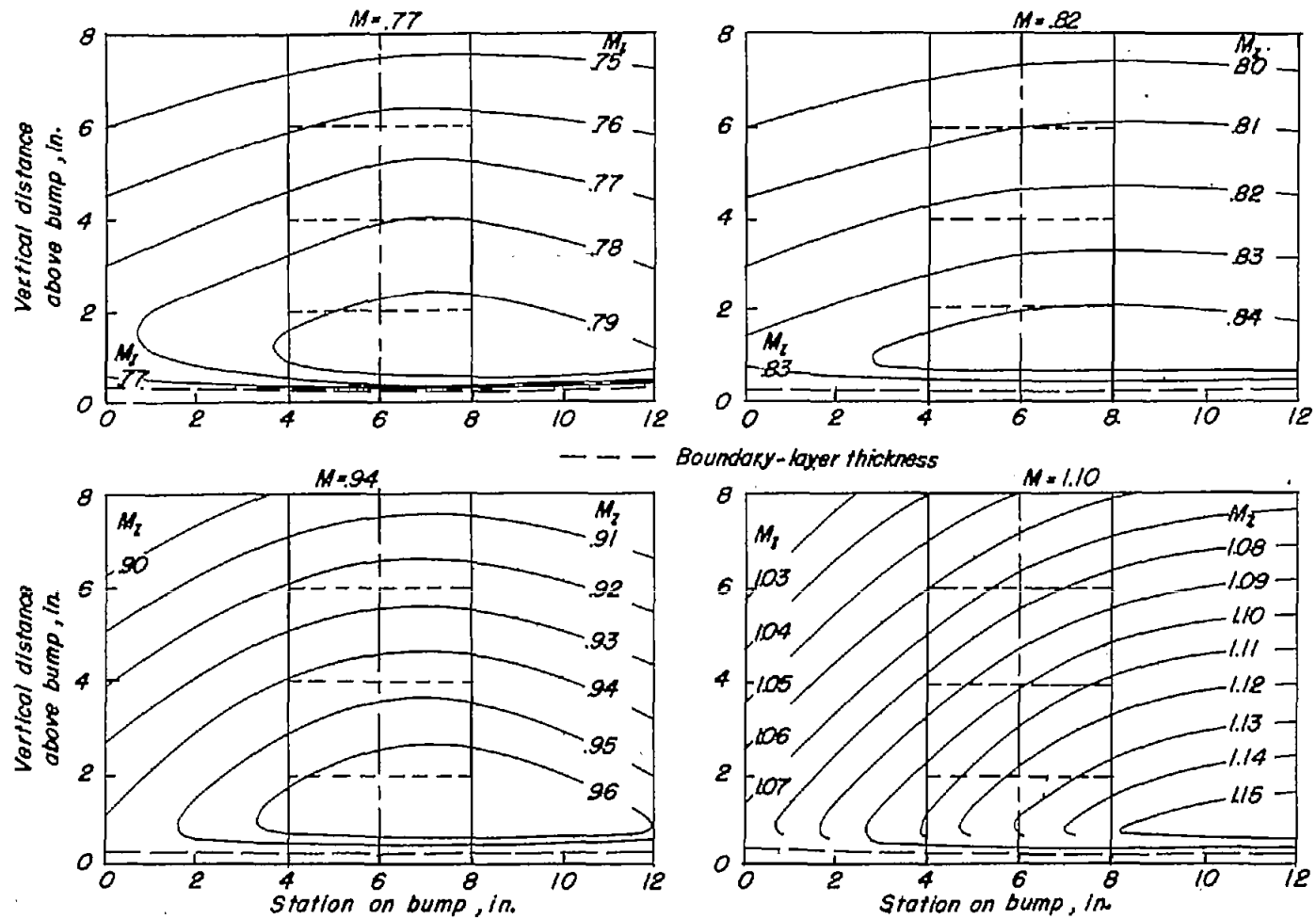
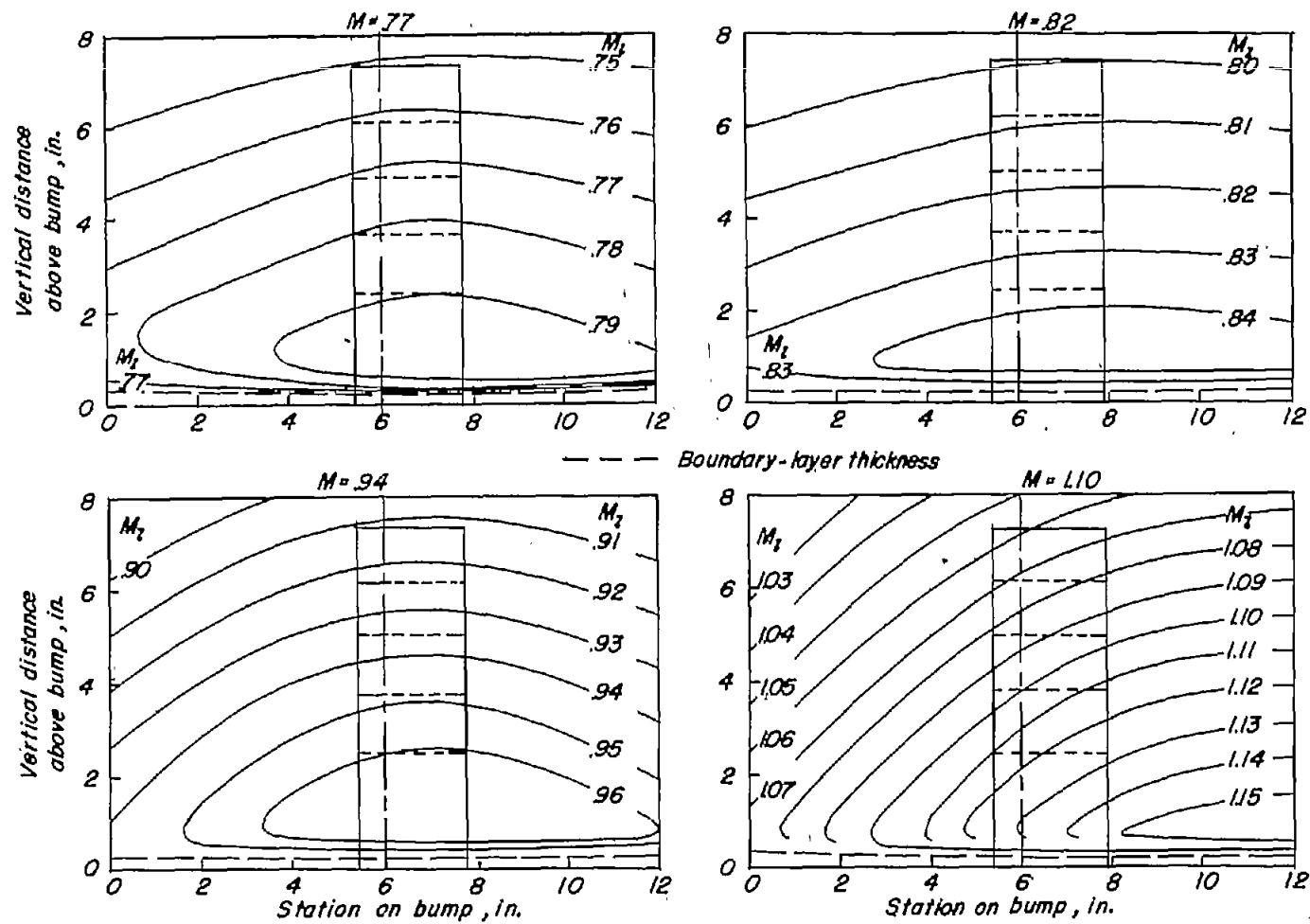


Figure 2.- Variation of test Reynolds number with Mach number.



(a) $t/c = 0.04$.

Figure 3.- Typical Mach number contours over transonic bump in region of model location.



(b) $t/c = 0.06$.

Figure 3.- Concluded.

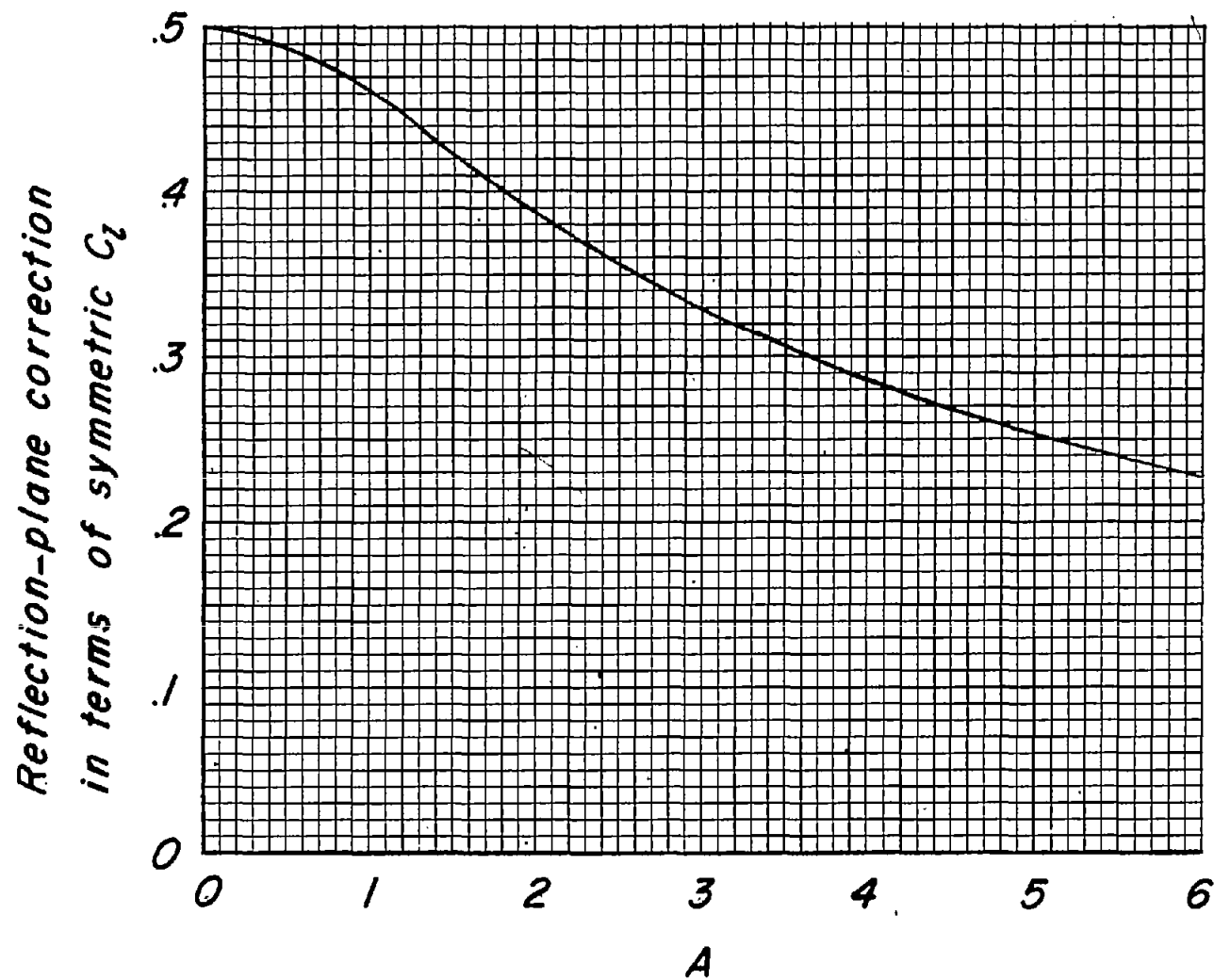


Figure 4.- Variation of reflection-plane correction with aspect ratio for full-span controls on untapered, unswept wings.

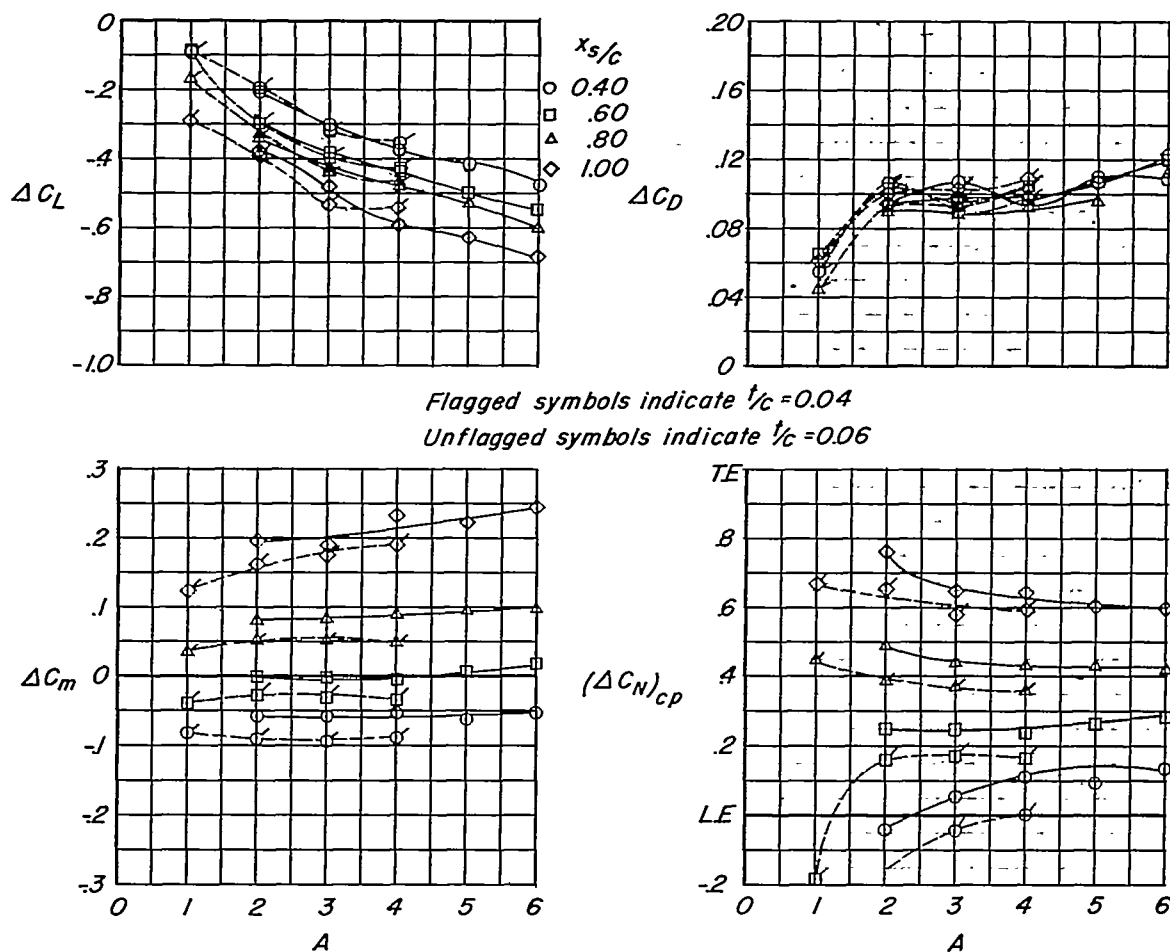
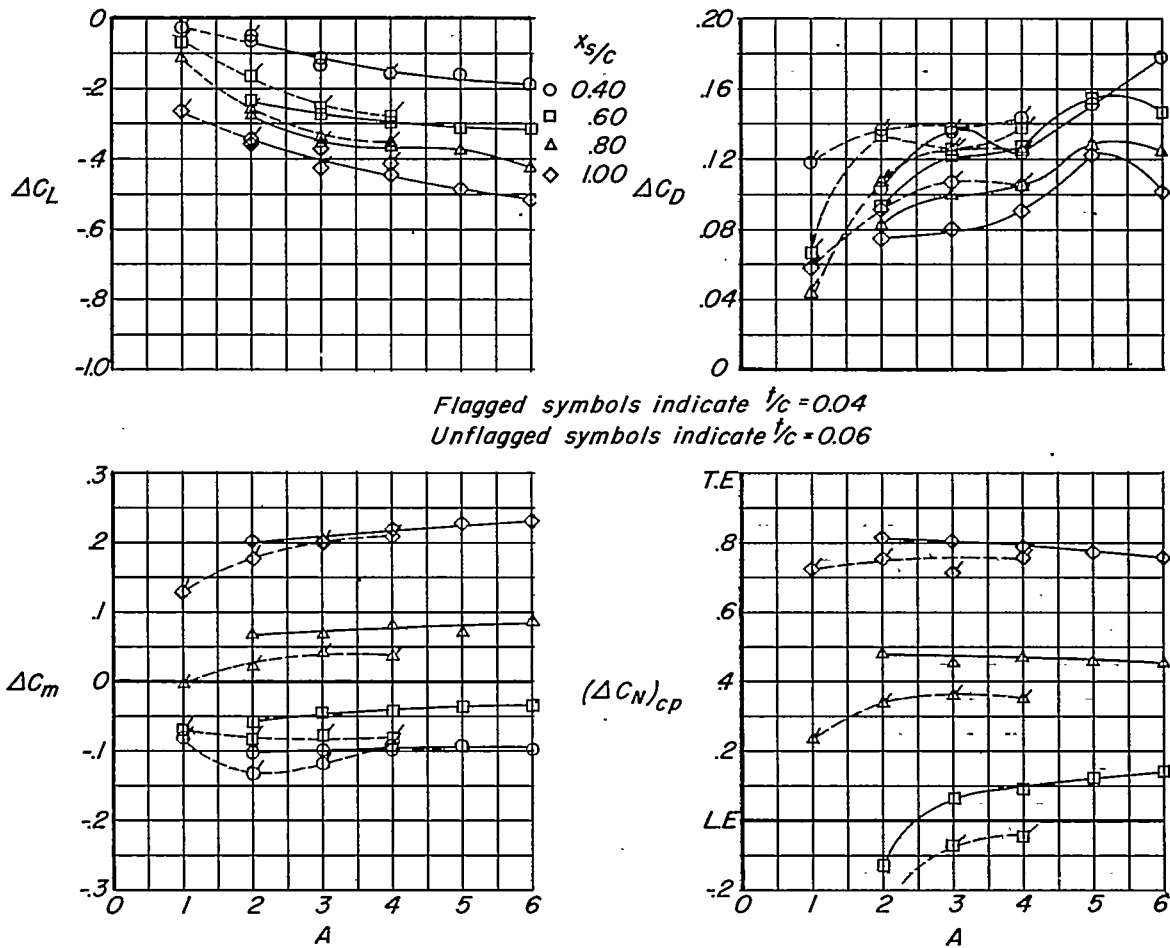
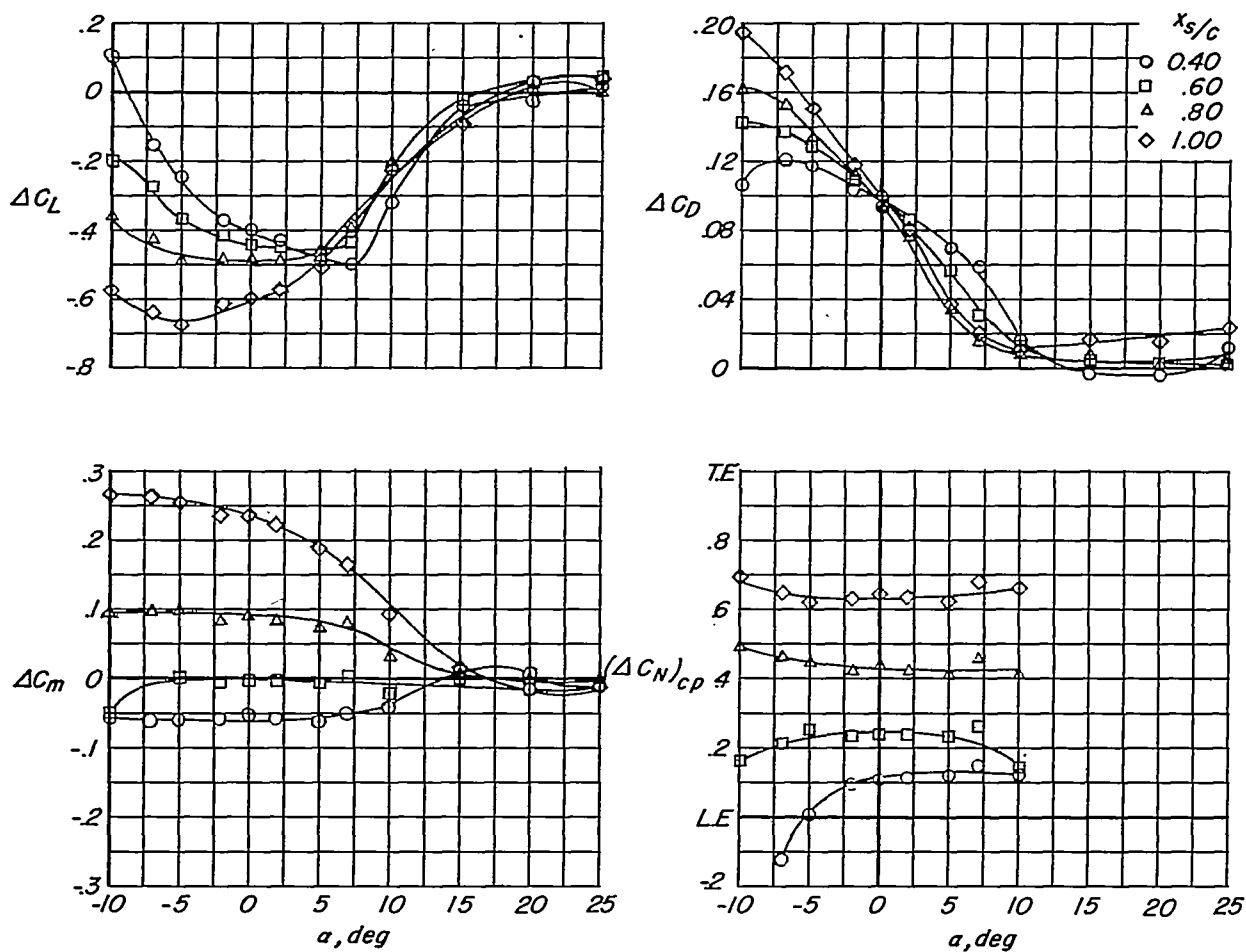


Figure 5.- Variation of the incremental lift, drag, pitching moment, and lateral centers of pressure with aspect ratio at an angle of attack of 0° for plain spoilers projected at various chordwise positions.



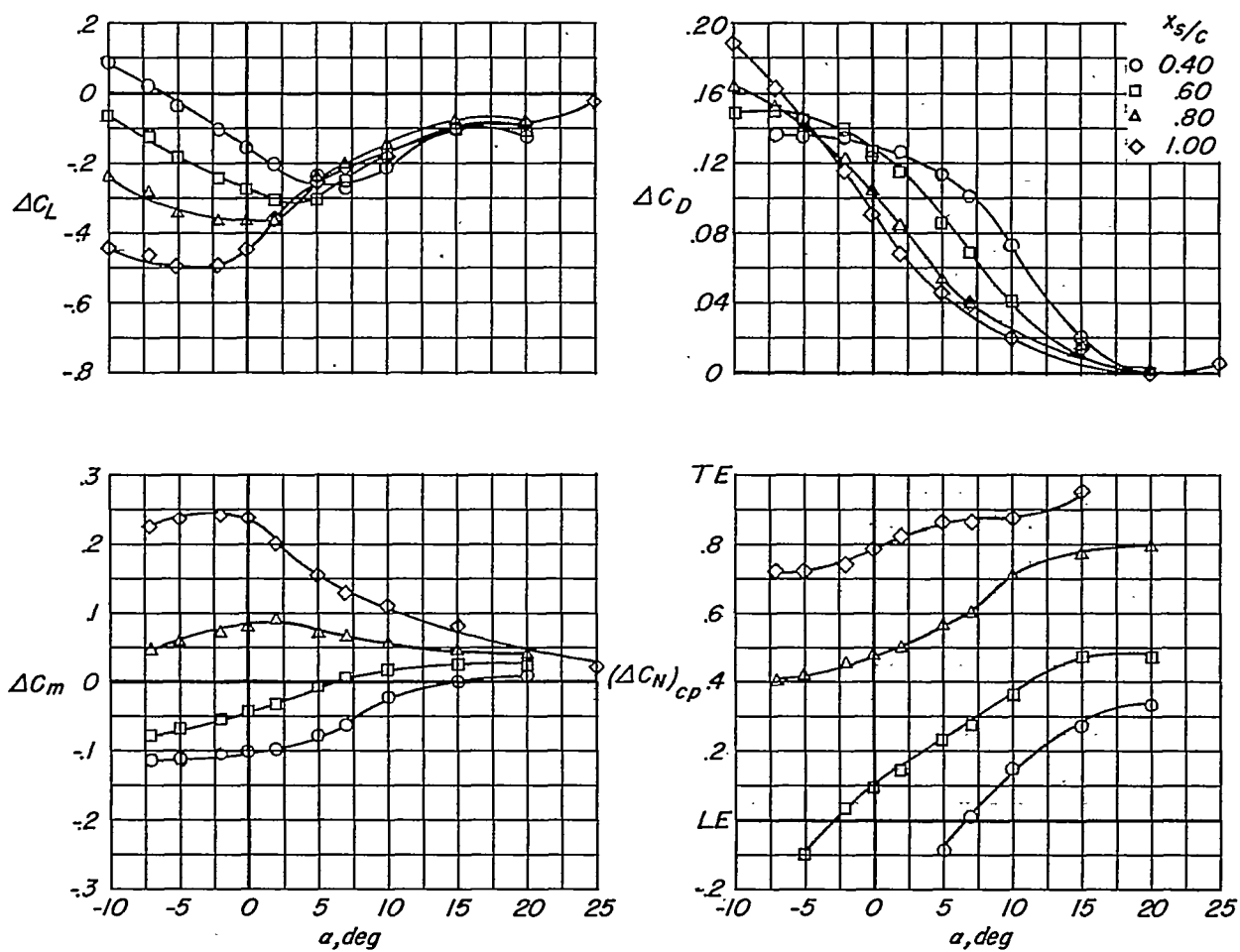
(b) $M = 1.1$; $\delta_s = -0.075c$.

Figure 5.- Concluded.



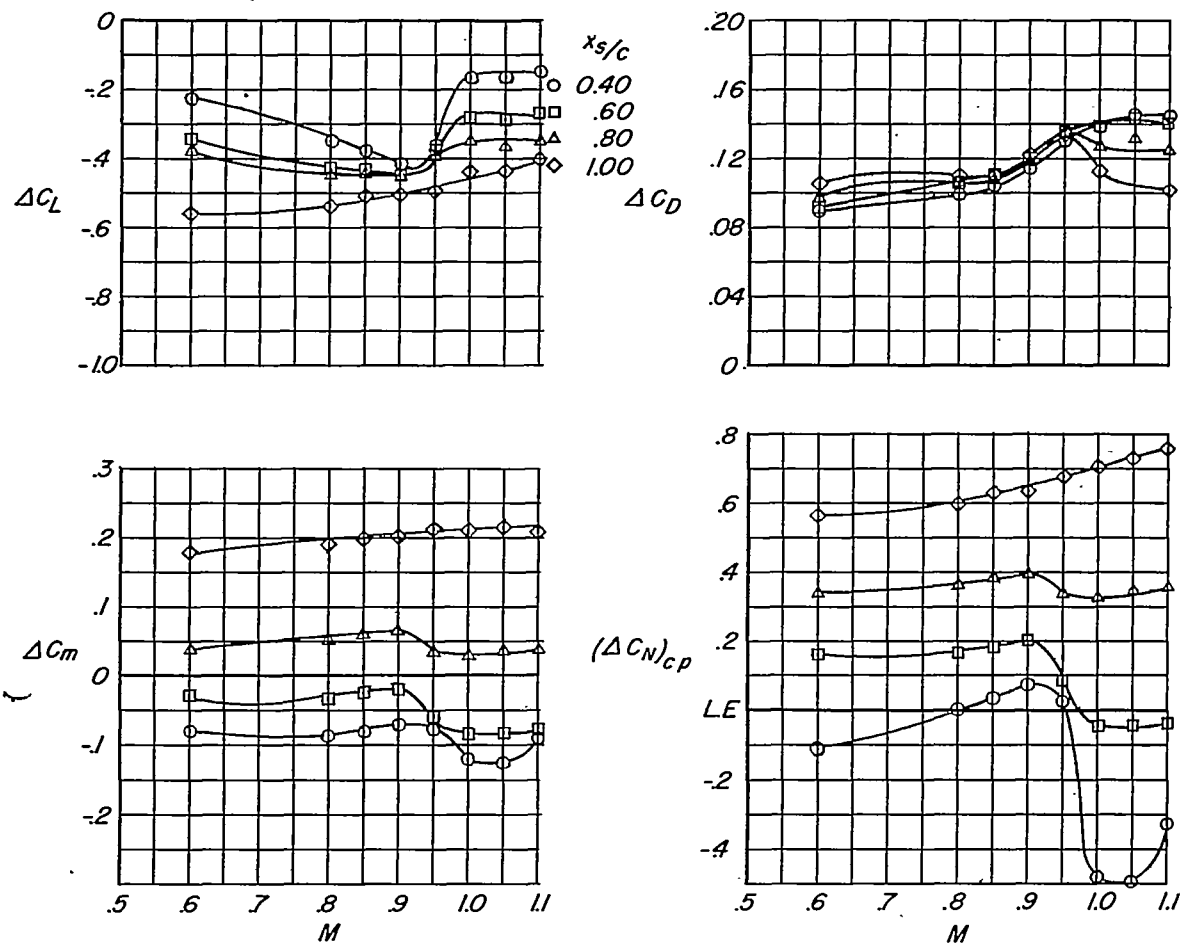
(a) $M = 0.8$; $\delta_s = -0.075c$.

Figure 6.- Variation of the incremental lift, drag, pitching moment, and lateral centers of pressure with angle of attack for the 6-percent-thick aspect-ratio-4 model with plain spoilers projected at various chordwise positions.



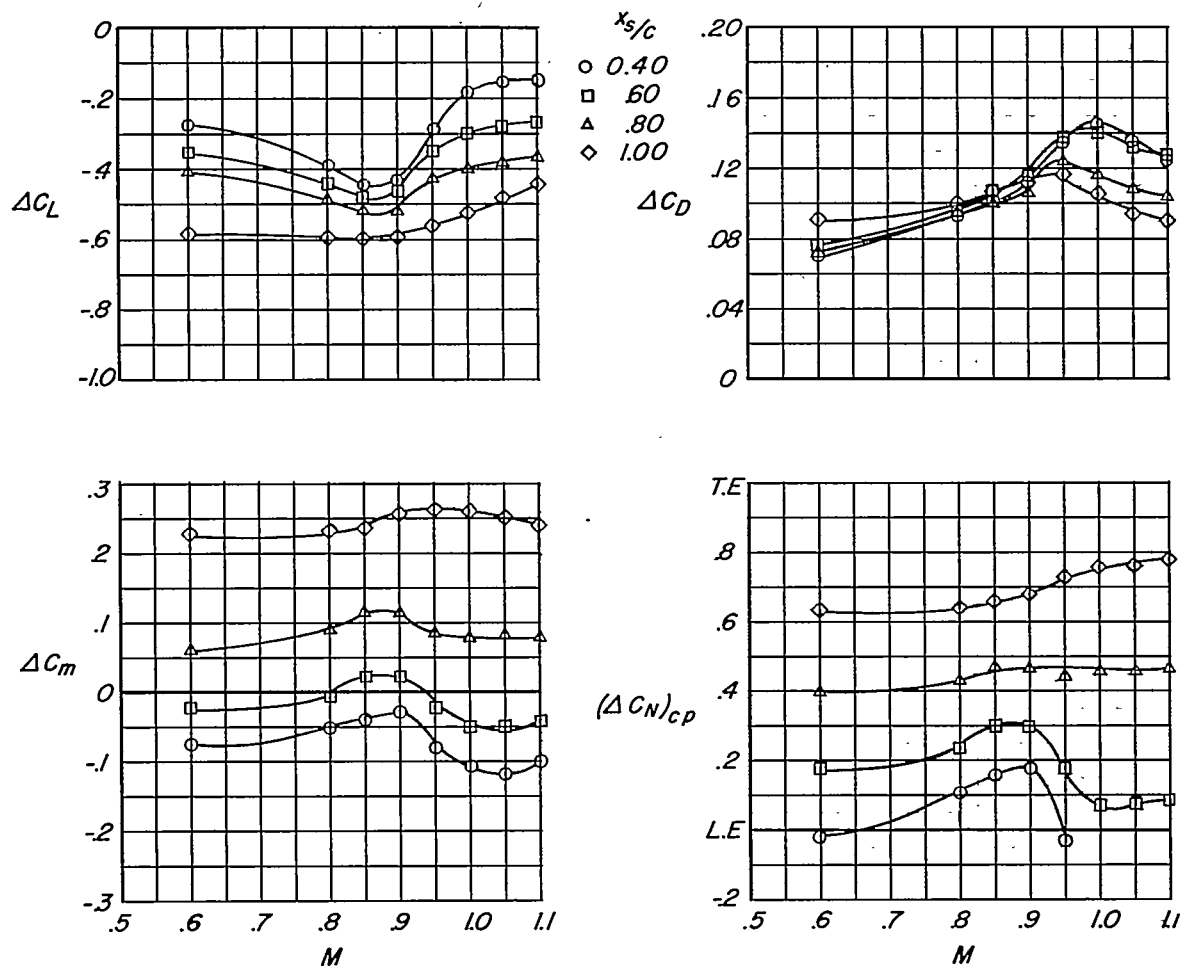
(b) $M = 1.1$; $\delta_s = -0.075c$.

Figure 6.- Concluded.



(a) $t/c = 0.04$; $\delta_g = -0.075c$.

Figure 7.- Variation of the incremental lift, drag, pitching moment, and lateral centers of pressure with Mach number at an angle of attack of 0° for plain spoilers at various chordwise positions on the aspect-ratio-4 model.



(b) $t/c = 0.06$; $\delta_s = -0.075c$.

Figure 7.- Concluded.